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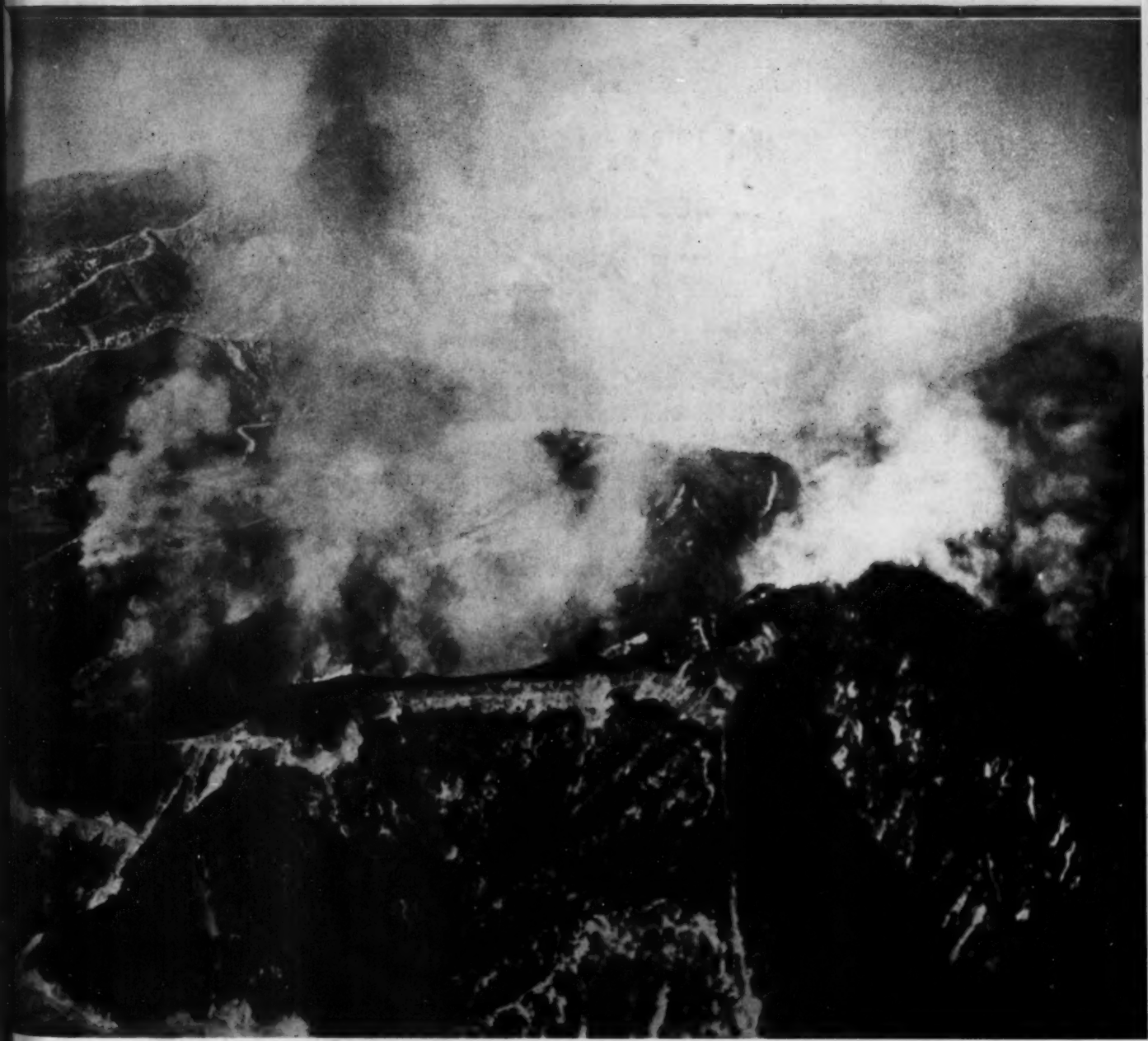
FIRE ENGINEERING

The Journal of the Fire Protection Profession Since 1877

87, No. 11 NOVEMBER, 1934 Member A.B.C.—A.B.P.



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FIRE ENGINEERING

The Journal of the Fire Protection Profession Since 1877

R. H. LOCKWOOD, Associate Editor — FRED SHEPPERD, Editor — N. N. WOLPERT, Assistant Editor

Send It In!

YOU always read about what the other fellow is doing. Why not let us tell the other fellow what you are doing?

● No doubt you have some fire-fighting or fire prevention methods that you are particularly proud of—new wrinkles or ideas that your brother fire fighters throughout the country would find interesting and helpful. Perhaps, too, you are planning to make improvements in your department, or have other news that would be of general interest.

● If you will just jot down and send in anything that occurs to you along these lines, we'll greatly appreciate your cooperation. You needn't bother writing a story; just let us have the facts and our editorial staff will do the rest.

Let's hear from you!

The Publishers

● P.S.—And how about a good firemanic joke or two for our FALSE ALARM page?

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Humorous Side of the Fire-Fighting Profession

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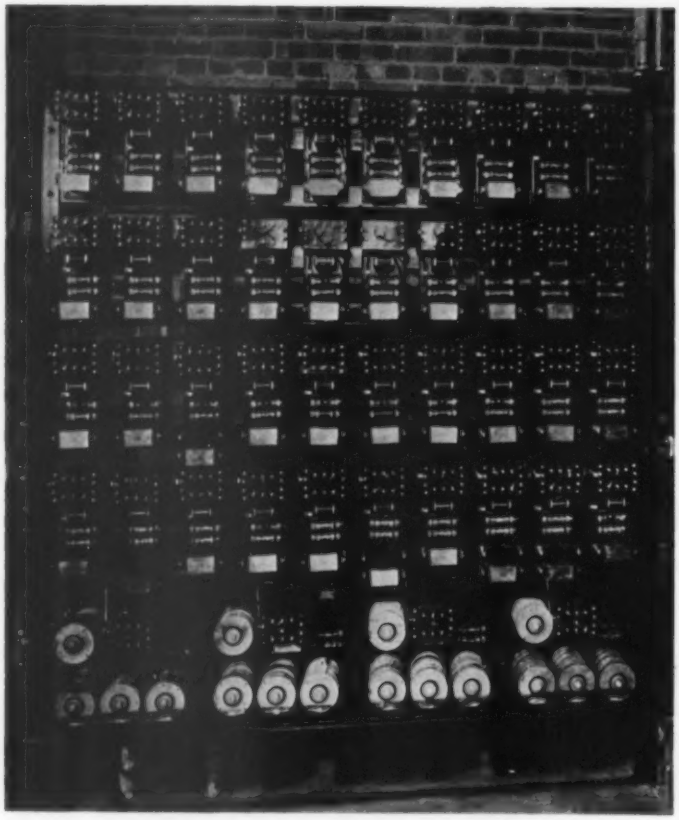

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NEWTON, MASSACHUSETTS

"A BOX A BLOCK"

FIRE ENGINEERING

The Journal of the Fire Protection Profession

Volume 87 NOVEMBER, 1934 Number 11

With the Editor

Experienced Fire Fighters on Ships

The investigation of the Morro Castle disaster showed in a most convincing manner how perfectly worthless even the best of fire fighting equipment can become in the hands of ordinary seamen, inexperienced in the very rudiments of fire fighting. At that fire even a well designed and efficient automatic fire extinguishing system was reported as failing to function. Hand fire streams were said to be puny and worthless in combating the hot, fast spreading blaze.

But outstanding above all disciplinary weaknesses was the confusion, the lack of any semblance of order or common objective among those supposed to make up an organization for fire fighting and other emergencies on board the ship.

Testimony showed that members of the crew supposed to work as fire fighters early took to the lifeboats and let those passengers who were fast becoming trapped by the rapidly advancing flames find ways of saving themselves.

The mistakes made are now past history. The damage has been done. But the lessons learned may be made of great value in preventing or avoiding future marine catastrophies. Foremost among changes that should be brought about as a result of the lessons learned is the placing on each ocean-going passenger ship a group of experienced fire fighters, headed up by one who has had ship fire-fighting experience, such as a former member of a fireboat crew.

Capable men could be secured at a cost which would not be prohibitive.

The presence of experienced fire fighters, made fire-safety-conscious by long service in field, and backed up by experience in making fire protection inspections and locating fire hazards, would be effective insurance against a passenger boat ever again being caught in such a tragic predicament as was the Morro Castle.

There is no place where greater leadership is needed than in fighting fires at sea. Men who have never seen a fire fought, and this would include the ordinary run of seamen, cannot be expected to put up any fight in the face of advancing flames. On the other hand, men who have taken punishment in the fire service, and who know just how much they can stand before being forced to retreat, may be counted upon to do really proficient work in holding a fire.

In the final analysis, it is the man who has "gone through the mill" and knows what to expect from fires that can be counted upon to combat them effectively. And that is why experienced fire fighters are needed to set up an organization for such work aboard a ship.

Fred Sheppard

Radio in the Fire Service

By CHIEF HENRY A. FOX,
Fire Department,
Boston, Mass.

Chief Henry A. Fox

THERE are only three cities in the United States in which the Fire Departments maintain and operate radio systems: Boston, Detroit and San Francisco, the city of Boston being the pioneer in this respect. In each of these three cities there is a Marine Division included in the force of the Fire Department.

A license to construct and operate a radio system must be granted by the Federal Radio Commission. According to the present regulations of that Commission, a city without marine fire service will not be granted radio service for the Fire Department, but messages may be transmitted to police and fire stations and to cars used by the Police and Fire Departments from police radio transmitters.

Amount of Power Allowed for Police Radio Systems

The amount of power allowed for a police radio system depends upon the population, as follows:

Under 100,000	50	Watts
100,000 to 200,000	100	"
200,000 to 300,000	150	"
300,000 to 400,000	200	"
400,000 to 500,000	250	"
500,000 to 600,000	300	"
600,000 to 700,000	400	"
Over 700,000	500	"

If the power from one station in a city of over 700,000 population is insufficient, additional stations may be constructed but not over 500 watts can be used in any one station.

For each radio system above 50 watts power, the services of a man having a second-class license are required, under that power a third-class license is sufficient. The transmitting operator must also have a third-class radio telephone license.

There are four hundred and seventy localities in the United States having a population of over twenty thousand, and at present, about one hundred and eighty municipalities are provided with police radio systems. Of these, one hundred and thirty use medium high frequencies—1,712 to 2,490 kilocycles (175 to 120 meters) and operate with fifty to five hundred watts. The remaining fifty operate on 30,000 to 40,000 kilocycles (10 to 7.5 meters). Where there are fireboats, Fire Department radio service is very essential, in fact, it is quite indispensable.

Boston System Installed Ten Years Ago

Radio transmitting and receiving apparatus was installed by the Boston Fire Department about ten years ago. Because this was the first system of its kind, many difficulties had to be overcome in obtaining apparatus and securing rights to operate.

Before the radio service was established in our department an endeavor was made to provide means to stop the fireboats while enroute to a fire where their services were not required, so that draw-bridges would not be opened unnecessarily, but it seemed impossible to devise a satisfactory method, with the result that many needless runs were made.

Also, there was no way to get information to the boat's crew as to the position they should take when arriving at pier and wharf fires, or if a boat was engaged in fighting a fire on a ship in the harbor, there was no way to communicate with department officers on land; but with the advent of the radio service the boats are in constant touch with fire alarm headquarters and the chief officer in charge of a fire on the waterfront can transmit his orders through the fire alarm box to the fire alarm office, where in turn it is relayed to the boat by radio, resulting in more efficient operation.

Alarms and All-Out Signals on Radio

All alarms and all-out signals are sounded on the radio in Boston in order that the fireboats may get them automatically. Incidentally the four department cars which are equipped with receivers, get the alarms and special calls are transmitted if the officers in those cars are wanted by headquarters. Probably, more cars will be equipped with radio in the future.

Incidents in Connection with Radio System

Many interesting incidents have been recorded in connection with our radio system, and I will cite one or two of them to show the value of such a system in the Fire Department service.

On June 2, 1927, Box 1234 was received for a fire on the Boston Floating Hospital Ship and upon arrival of the apparatus, the fire had extended to Fiske Wharf. At this particular time only two of our fireboats were in service, the third boat being out of com-

DETAILS OF BOSTON RADIO SYSTEM

The Boston Fire Department Radio system has four radio phone sets for transmitting and receiving; one at fire alarm headquarters and one at each of the three fire boats. Wave length 184 meters (1630 kilocycles).

Portable sets referred to in address are of super high frequency, less than 5 watt power; get no shadowing effects, shading, etc.

Power allowed for police radio systems does not apply to fire departments. Boston station is provided with 100 watt power, but uses 50 watts by permission of the Federal Radio Commission. Fire boats use a 7.5 watt set.

Constant communication is always maintained between the fire alarm office and the fire boats.

mission due to Annual Government Inspection and repairs. Just previous to the alarm one of the boats had been dispatched down the harbor to a small fire on Rainsford Island. A second alarm from Box 1234 followed closely after the first which indicated a serious waterfront fire and immediately Fire Alarm Office got in touch with the boat by radio and ordered them back, as the services of both boats were needed at the Hospital Ship fire.

On January 5 of this year, I was just leaving Department Headquarters on Bristol Street to go to lunch, when Box 2344 was striking on the tapper. While proceeding along, my aide turned on the radio as usual and in a very few minutes we received the second alarm from this box, followed shortly by the third alarm. Upon receipt of the third alarm we immediately headed for the fire and arrived there right back of the second alarm apparatus. If my car had not been equipped with a radio receiver, I would not have known about this fire, which by the way was the Fenway Park fire, until my driver reported in after dropping us at the restaurant and would have lost some eight or ten minutes in the meantime. This fire had assumed tremendous proportions, having already crossed Lansdowne Street, and quick and decisive action was necessary, as there was no way of determining at that particular moment where the fire would stop, the first arriving companies finding a potential conflagration in progress. You can readily appreciate how valuable the time saved in this instance was to me.

Information for Deputy and District Chiefs

In Boston, there are eighteen Deputy and District Chiefs on duty at all times, who are required to respond promptly to all alarms to which they are assigned, and in order to keep informed, they are obliged, when away from stations, to report frequently to headquarters. Such is true in all cities where there are no outside alarm sounding devices.

When the time arrives that all chiefs' cars shall be equipped with radio receivers more efficient service will be maintained. Until about a year or two ago, manufacturers of radio apparatus gave little thought to receivers on automobiles. While it was possible to buy receivers for that class of service, they were not reliable and any apparatus that lacks dependability should not be considered for fire alarm service. It has been far better to use the old facilities for obtaining the necessary information. Furthermore, there has not been until recently, any means of getting alarms of fire by means of radio, except in Boston.

However, times are progressing. Many cities and towns already have radio-equipped police departments and it probably will not be long before every well-organized police department will have facilities for transmitting messages by radio. In many sections plans are being made for supplying radio service to a group of towns and, of course, there will be many cities and towns which will have their own individual services. Radio service is quite essential when police cruising cars are used, and in these modern times every department must, in order to function at all, have cruising cars.

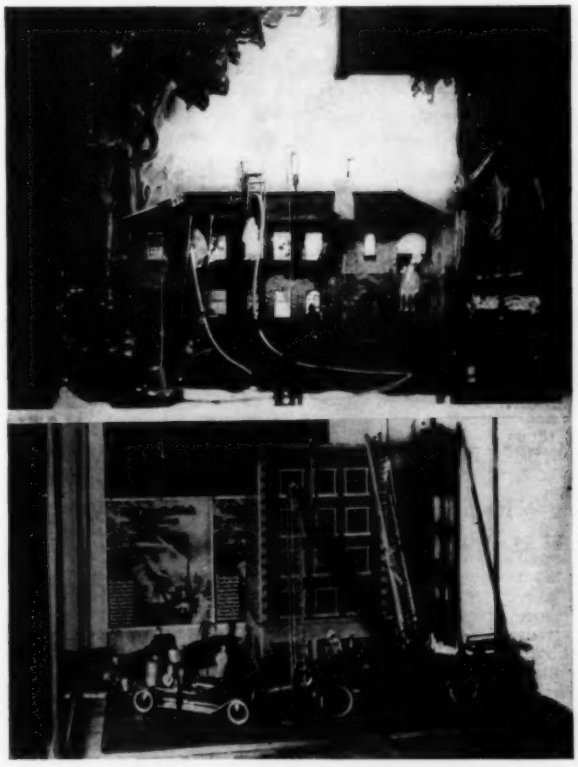
With police radio service, there should be no difficulty in making arrangements for broadcasting alarms of fire. As a matter of fact it is generally necessary that officers in cruising cars get that information, so with radio receivers on Fire Department cars, notice can be obtained when alarms strike. Arrangements could undoubtedly be made to get notice of alarms through the radio system of a nearby town if no local system is available, and, as a matter of fact, such arrangements are quite common now. The regulations of the Federal Radio Commission provide for such service.

What Development of Radio Will Mean

Rapid strides are being made in the development of radio so it is not at all unreasonable to state that the time is not far away when it will be possible for the commanding officer at a fire to be able to communicate instantly with each and every officer working under him. Just think what that will mean.

For instance, the Deputy Chief stationed in the rear of the building on fire, reports by radio that two more engine companies are needed in the rear and a District Chief on the fifth floor reports that the fire is getting into the next building. The Chief upon receiving the reports takes the necessary action. He orders one company to do this, another to do that, and orders another alarm sounded, yet in spite of the fact that he has had a tough proposition on his hands and has issued a great many orders, after the job is done he has his normal voice. There has been no shouting of orders. Every order has been given in the ordinary tone of voice. There have been no delays in passing information from subordinates to the Chief and no delays in giving the necessary orders.

This can all be done with apparatus now on the market



Daytona Beach Active in Fire Prevention Work

During Fire Prevention Week, the Fire Department of Daytona Beach, Fla., placed fire prevention posters in all available windows, all public buildings, each room of every school of the Halifax District and in several adjoining towns. Five special window displays were made. The cutouts of the firemen are from photographs especially posed. The department also gave talks before the twenty public and parochial schools, and several civic and fraternal organizations. Fire drills were held at each school and a note made of the time required. B. B. Hart is Chief and R. B. Johnston is Assistant Chief.

with sets that can be strapped on a man, but like all radio developments in the early stages, improvements will be made. Sets for this class of work will be made lighter and more compact; in fact, a new development in these types of sets has just been announced whereby the antenna feature is incorporated in a "Sam Browne" belt similar to that worn by traffic officers, doing away with the short antenna which heretofore had to be carried and made the equipment more cumbersome. These sets weigh about four pounds and are two-way sets; that is, messages can be both transmitted and received. They are of very high frequency and of small capacity. Conditions which retard reception on sets with lower frequency have little effect on this type. Their ranges are very short but ample for this class of service.

Use of Radio in the Future

Who can foretell what radio will mean to Fire Departments in the future? When we look backward and think of the developments which have been made in the last decade we cannot but wonder what is in store for us. One might predict that wire systems will be replaced by radio for the transmission of alarms but that seems improbable. It is entirely probable, however, that alarms may be transmitted from headquarters to the various stations, and, as a matter of fact, that suggestion has already been given some consideration in the Boston department as an emergency method in the event of disruption of the wire service, but it seems quite inconceivable that alarms can be transmitted by radio from a fire alarm box and have as much reliability as is obtained now. Reliability, it must be borne in mind, is the keyword for fire alarm service.

In the final analysis, however, notwithstanding the advantages and conveniences of radio service which I may have previously outlined in this address, until radio has been further developed, there seems to be but little practical use for it in Fire Department work, other than in connection with marine service.

While it is important that chief officers be in a position to know when alarms are sounded; yet to maintain a radio system solely for the purpose of keeping such officers in touch, seems to be a needless expense and I would not advocate it.

In cities and towns where there are whistles and bells in the alarm system, the Chief should have no difficulty in getting alarms, but where there are no such facilities other means now in vogue will have to be depended upon.

(From a paper read before the annual convention of the New England Association of Fire Chiefs, at Burlington, Vt.)

Radio Play Warns Against False Alarms

Fire Prevention Week took an educational turn in Jacksonville, as members of civic clubs cooperated with the Fire Department in preaching the necessity for care.

Every building in the business district was subjected to a rigorous inspection by members of the department, and the attention of owners was directed to any hazards found. Fire Chief W. Q. Dowling, with his Assistant Chiefs, talked prevention at various schools of the city, while members of the Junior Chamber of Commerce and other service organizations spoke at the others.

The danger of turning in false alarms "just to hear the sirens blow" was adroitly demonstrated in a short skit presented over the municipal radio station, WJAX.

Supervised by George P. Allen, Chief of the Signal Bureau, and John T. Hopkins, Jr., manager of the radio station, the one-act play called attention to the stiff fine assessed by the city upon anyone caught "pulling a box" needlessly.

The danger of accidents was pointed out in a conversation between the Captain of a hose company and the driver as they raced to an alarm that turned out to be false.

Members of the Junior Chamber of Commerce formed the cast. D. G. Aid.

NEW YORK FIRE DEPARTMENT STEALS TENEMENT FIRE SHOW

Old-Law Type Tenement House Set Ablaze by City Tenement Department to Demonstrate the Effectiveness of Some Type of Sprinklers

By William Jerome Daly

THE Tenement House Department of the City of New York staged a fire in an unoccupied tenement of the old-law type on October 16 for the purpose of demonstrating the effectiveness of sprinkler protection in such structures.

The New York Fire Department was requested to be on hand for emergency purposes only. Commissioner John J. McElligott took personal charge of the fire-fighting forces consisting of three engines and one ladder company. The tenement, one of many in West 38th Street soon to be razed to make way for the construction of a vehicular tunnel to New Jersey, was placarded on its fire escape with a sign announcing that the test was arranged by the Tenement House Department.

Purpose of the Demonstration

The purpose of the show was to demonstrate that sprinklers will "kill" a fire in a tenement house—something that has been well known for many years in other types of buildings.

The presence of the fire apparatus, half a dozen white helmeted Chiefs and fifty firemen "stole the show" of course, with the result that New York newspapers in publishing reports of the test, tacked the matter on the door of the Fire Department. Subtle and facetious reports appeared in the newspapers and some of them ridiculed the whole thing under the mistaken notion that it was the Fire Departments stunt. In all fairness to Chief McElligott, it should be stated that he and his men and their apparatus were there only to co-operate in preventing any extension of fires. To add to the Fire Department's embarrassment, it seems that it became necessary at one stage of the test to send out for additional excelsior and wood in order to make a substantial fire under one of the sprinklers. Newspapers reported that "the firemen ran out of matches" and one of the journals in an editorial said "When firemen set fires—they run out of matches." Another published—"Tenement fired by McElligott" and still another declared "New York firemen turn firebugs."

The sprinkler system in the tenement was not connected to the city water main but was supplied by a fire engine with thirty-five pounds pressure. Connected to the system was a loud siren in the hallway of the tenement and a huge gong on the outside of the building. There were four fires, in different parts of the building at different times over a two-hour period. Newspaper photographers, news reel cameramen, reporters, policemen, a throng of the curious, principally of the army of unemployed and a handful of buffs made up the audience. The Superintendent of Buildings, under whom fire prevention responsibilities in New York now come and the Chief of the Fire Prevention Bureau which is now part of the Building Department, were not present.

Test Fire in a Bedroom

Plaster board made up the walls of a test bedroom which was set afire. No sprinklers were used in that particular test, and when the cold water at 35 pounds pressure struck the hot plaster boards, the latter collapsed. The test proved that sprinklers will put out a fire, sound an automatic alarm and prevent loss of life. One fire burned five minutes and 17.5 seconds before the sprinkler head fused. The sprinkler "killed" the blaze in two minutes and 15 seconds.

It is expected that as a result of the success of the test, local legislation will now be sought to require automatic sprinklers in old-law tenement houses, of which there are approximately 67,000 in New York. Last winter forty-eight lives were lost by fire in old-law tenement houses. It is the ambition of Langdon Post, Tenement House Commissioner, to bring about the elimination of as many old-law tenement houses as possible. Mayor La Guardia of New York is committed to such a plan, on the principle of slum clearance in the congested sections of the city—particularly in Manhattan and Brooklyn. The plan of the Mayor and his Tenement House Commissioner has the approbation of all the welfare and social service agencies of the city.

The Shunt Type Master Box

Some of the advantages of the use of this device in connection with a municipal fire alarm circuit.

By W. H. GREENLAW,
President, I. A. M. E.,
City Electrician of Beverly, Mass.

THE objective of the master box, is to make our established fire alarm systems instantly available from and throughout the interiors of buildings, thereby enabling alarms of fire to be transmitted manually or automatically more quickly than can otherwise be the case.

I hold it to be true, therefore, that nothing but unqualified approval will be given to the general proposition of quick alarms—and still quicker alarms, just so long as the devices and the methods employed are such that there can be no detrimental interference with our fire alarm systems. I hold it to be equally true, that when we are satisfied that any device complies with these requirements, it is our duty and should be our privilege to aid in its wider use.

The fire-extinguishing and life-saving branches of our fire departments, are constantly striving to speed up their operations; but regardless of their efficiency, they are of no value until they have received an alarm. Let us, therefore, look carefully into the merits of the shunt type box, that we may determine whether or not it may be used to largely add to the value of department equipment, and thus increase department efficiency.

What the Shunt Type Box Is

First of all, what is the shunt type box? It is a positive non-interfering quick-succession box with which we are familiar, so arranged that it may be operated from a distance—from building interiors—either by the manual pulling of remote control stations, or automatically upon a water-flow in a sprinkler system.

Assuming that the master box is a reliable piece of apparatus, do we not know that the lives of our children in the public schools, of our sick in the hospitals and of our workers in factories and business places will be better safeguarded, if the sending of an alarm of fire could be made almost simultaneous with its discovery by the use of facilities which would greatly speed up the initiation of a signal?

Our two main sources of fire extinguishment—our fire departments and our sprinkler systems—are now widely out of touch with each other, and to the great disadvantage of both. Under usual conditions, from 25 seconds to 4 minutes or more are required for the operation of a water-flow gong or local alarm in a sprinkler system. Where a sprinkler system is connected with a master box through the latest type of pressure chamber, the opening of a sprinkler head will cause an alarm to the public department within from 3 to 10 seconds. This is unquestionably the speeding up of alarm transmission to a tremendous degree. Incidentally, I am convinced from personal study, that under conditions just referred to, false alarm from water surge or hammer cannot occur.

Long Service Record Establishes Value

And now I believe it is proper to inquire as to whether or not the shunt type master box is new in principle, and as to what service record it has; and it is largely from service record that proper conclusions may be drawn. I am informed that there are over 4,000 shunt type master boxes in use in more than 300 cities and towns in 30 states in the United States, and that this type of box has been in use for 20 years and more. Of course the latest shunt type box differs from the earlier forms, similarly as the present-day succession box differs from its predecessors; but improvement in details is the order of the day. I submit that this service record necessarily establishes the fact that the device is meritorious, and that whatever its disadvantages may be, they are over-balanced by its value.

In my city of Beverly, I have had personal experience with these master boxes and I approve of their proper use. As a matter of fact, I so advised C. S. Downs, City Electrician of Altoona, Pa., who, having been appointed on the Committee on Signaling Systems of the N.F.P.A., addressed a communication to me in common with all members of the I.A.M.E., asking my opinion of this device.

Incidentally, Mr. Downs has advised me that out of all of the replies received from the membership of the I.A.M.E., 81 per cent were unqualifiedly in favor of the use of this box, 6 per cent expressed no opinion on the ground that they had had no experience with it, and 13 per cent expressed opinions so qualified as to leave the subject open, none of these opinions condemning the principle of the box.

Two Objections Expressed

In all of my experience, I have heard but two consistent objections to the use of the master box. These are

1. That a break in the shunt circuit will cause a false alarm, and
2. That a ground on the shunt circuit, will be a ground on the main circuit.

Both of these conditions are facts; but I submit that no great gift has ever been made to the word by invention and science that has not had its disadvantages. We would be stripped bare of every desirable facility, if we considered only possible disadvantages and ignored net values.

Advantages Far Outweigh Disadvantages

Real alarms, and speedy alarms, and sure alarms, are desirable. They are more than desirable; they are absolutely essential to the best interests of our communities. I figure the net value to the people I serve in my official capacity, which would come to them through the proper use of this device generally, very far outweighs the disadvantage of an infrequent unnecessary alarm. If a shunt circuit breaks in a public school, for example, and an unnecessary alarm occurs, what happens? The answer is, that the trouble is removed promptly and the protection is restored to the children. This, in my opinion, is distinctly worthwhile.

If a ground occurs on a shunt circuit, it grounds the

main circuit. This is not desirable, to be sure. We all expect grounds to occur on our main circuits; we watch for them; we remove them as soon as we can. A ground on the shunt circuit, and a ground on the main circuit is no different than two grounds on the main circuit. Again I repeat, that shunt circuits may be so installed, and of course should be so installed, that the possibility of grounds on them is minimized.

I have also heard it stated as an objection to the master box, that we should not be called upon to pay any particular attention or devote any time to anything "beyond the curb line." But our children, our sick and injured, and our workers are beyond the curb line when it become a question of protecting them against fire. Fires, as a matter of fact, do not occur on the streets but beyond the curb lines. It would be just as absurd to contend that the fire-extinguishing equipment of our cities should not pay any particular attention or devote any time to anything beyond the curb line, as it is to contend that the fire alarm system should not go beyond the curb line.

Education of Taxpayers Essential

There is a point of view which I would like to have considered. It is this: In very many cases, even during what may be termed normal business conditions, fire departments frequently experience very great difficulty or a total failure in securing sufficient appropriations to bring them up to, and to maintain them at, that standard of efficiency which those responsible know to be an essential thing in the public interest. This condition is, of course, aggravated during periods such as we have been passing through the past few years, by reason of high taxes, poor business, vanishing profits, reduction in the spending power of the community, loss of employment, and the attendant drains upon our resources for public relief.

I am of the opinion that those municipal departments which come in intimate contact with the largest taxpayers and property owners and employers of labor in their communities, are building solidly for the future in the matter of appropriations, because it is inevitable that under such cooperation the citizens who furnish appropriations are very likely to have been educated to the point where they realize that the fire departments are a living thing in their daily lives and are doing a protective work which the community should get back of and foster. Translated into practical terms, such a feeling on the part of important sections of the public would most assuredly result in a more favorable consideration of fire department requirements in connection with appropriations.

Improvements in Fire Alarms Should Be Fostered

In fostering the wider use of any proper and safe extension to our public fire alarm systems, on the broad and solid ground of the best good of our whole communities, we are not shattering any precedent. The initiative should be ours, because we are the ones who have been selected by our citizens to care for their interests, and to give them helpful advice and recommendation.

But what is our fundamental duty? It is, as I understand it, to maintain an adequate fire alarm system to insure as prompt an alarm as possible, to the end that the lives of our citizens may be saved, the wage distributing power of our plants maintained, and the taxpaying power of property continued uninterruptedly. We know that prompt alarms contribute directly to this end; we know that our public systems are the base on which a quicker alarm structure must be built, and it seems to me that it is up to us to advise our people who may be anxious to better protect their properties in the interests of all of the property in the community, as to that method which it is best for them to follow, and the most economical.

Personally, I cannot see but that it is proper for a community to furnish its taxpayers with fire alarm protection, and I do not believe that the small amount of supervision over shunt type installations, should be considered as a drawback in view of the very great protection to life, property, tax-paying ability, and employment of labor which these systems give.

Before closing, I wish to give it as my opinion again, that the proper use of the shunt type master box and of its control stations, will yield great benefit to a community, and will not in any manner or direction impair the efficiency of the main system; and to emphasize my belief that its wide use should be encouraged.

(Excerpts from a paper read before the annual convention of the International Association of Municipal Electricians at Washington, D. C.)

Ex-Chief Fortin Now Legislator

Charles E. Fortin, Chief of the Lewiston, Me., Fire Department from May, 1925 to February, 1932, has been elected a member of the state legislature.

He was born in Brunswick, Me., February 14, 1897. During the war he was appointed Sergeant and instructor of the 4th Co., Coast Artillery Corp at Watertown, Mass., Arsenal.

Mr. Fortin became a member of the Lewiston Fire Department on January 3, 1924; master mechanic with rank of Captain on October 1, 1924, and Chief on May 2, 1925. He resigned on February 13, 1932, to engage in a tire business. He still retains his interest in the fire service and responds to alarms.

Toronto Depicts Department History

Muddy York, now known as Toronto, Ont., Canada, was protected by the Bucketeers who fought fires by the chain bucket system 110 years ago. As part of the Centennial Celebration there was a parade through the main street of the city to the Canadian National Exhibition Grounds. In the parade, which was led by Platoon Chief Alex. Gunn, were hand drawn apparatus and modern motor apparatus.

First Hand Drawn Hook and Ladder of Toronto

Firemen wore costumes of the bucket era of 1820. The procession was concluded by a demonstration of modern fire fighting. Members of the City Council and Chief George Sinclair reviewed the parade. J. K. Lee.

THE ROUND TABLE

For Practical Discussion of Current Fire Department and Fire Management Problems

COMPENSATION FOR VOLUNTEER FIREMEN

VOLUNTEER fire-fighters should receive some compensation for their services, even though the title "Volunteer" presupposes a labor of love.

To become dexterous in their work and trained in fire-fighting routine, it is necessary that they devote many evenings to drills or practice runs. During the year these practice runs and drills should amount to an appreciable total.

Then, too, when the siren or whistle sounds, the volunteer firemen are required to drop their task, or rush out of bed, and speed to the fire or fire station. There is no time to don old clothes. Often good apparel is spoiled by water or chemicals. Therefore some compensation should be made for material losses and for unselfish devotion to duty.

In the box on this page is the problem in full that is discussed in this issue. A discussion of this question will be continued in the next issue. Should you have some comments that you would like to add, you are invited to write to the "Round Table Editor," FIRE ENGINEERING, 24 West 40th Street, New York, N. Y.

Discussion of the Question

F. E. Ripper, Chief, Chicora, Pa.: Our Fire Department is volunteer under charter of Independent Hose and Relief Association. We have seventy members and receive no pay from Borough Council for fighting fires. No salaries are paid to any of the firemen.

We purchased a fire truck about six months ago and asked the neighboring township to pay us a fixed sum each year for five years for the protection we can furnish, but they turned it down. We have passed a resolution not to leave the borough unless the party whose property is involved is a supporter of the hose company. In explaining would say that we agree to furnish an individual protection or assistance for a period of 5 years for $25 payable either in advance or $5 per year. These parties are listed in the telephone office and when they have an alarm it receives the same attention as our local borough calls. If not on preferred list, a satisfactory arrangement must be made before we answer calls. For example, we made a run of six miles in the country and had a 2½-inch stream of hose going in eleven minutes to a party paying for this protection. It would have required nearly that long for his neighbor to make arrangement for protection when he needs it, and it would then be too late.

Our Borough Council has nothing to say as to who shall be members of the fire company. Each new member presents his application and same is regularly voted on.

Harold R. Osborn, Chief, E. Paterson, N. J.: The personnel of this department consists of ninety-seven men, all subject to call and all receiving the same compensation of twelve dollars per year due on December 31. We do not have any callmen nor do we draft special fire fighters.

The men receive no extra pay for calls outside borough limits.

The municipal authorities have never made an attempt to control the membership of the department other than to designate the number of men permitted in each company. They do pass on the names submitted by the Chief of the department before such names are inserted on the active roll. They have never denied an application.

E. J. Tobias, Chief, Garden Grove, Cal.: We have twelve volunteer men in our department. They receive two dollars per fire, one dollars per false alarm, and one dollar for each drill. We have two drills per month.

We answer calls outside of the city and the men are paid from the County General Fund.

The city does not attempt to designate those who are to join the Fire Department. This is left entirely to the men in the department and the Chief.

George C. Hepner, Chief, Cedarville, N. J.: In this department there are twenty-four active volunteer firemen. They receive no pay from the township. All apparatus is owned and kept up by the township. We have no callmen. When aid is needed we call on the next nearest company. They do the same with us. All companies in the county are members of the Cumberland County Firemen's Association. No charge is made for service rendered.

When responding to calls out of the fire district a charge of $25 is made, half of which is given to the firemen. They are also given all money that is donated to the department. The Township Committee states who shall join the department. The applicants must be between the ages of 21 and 35, pass a physical examination and be approved of by the committee. Then the name is taken before the fire company members for their approval. Not more than twenty-four active men are allowed at any time. Any member not attending a fire, unless he shall have a reasonably good excuse that is accepted by two-thirds of the members present, shall be expelled at the next meeting of the company.

Lee A. Phillips, Asst. Chief, Clayton, N. Y.: We do not receive any pay for service either in the village or outside. We have no call men nor do we draft help.

The village does not have any control during fires, but it does have charge of apparatus and equipment, and has a set of rules which have in the past made confusion and feeling between department heads and members.

Clayton has a population of 1,900, has three 500-gallon triple combinations, and about 2,400 feet of hose in good condition all located in one central building. The Fire Department owns one of these and uses it on all outside alarms in the rural section. It has been very successful in decreasing losses, however we receive no compensation for this service, other than donations, and this is not sufficient to maintain apparatus and equipment.

We appealed to the town board to give us $250 per year for maintenance but this was turned down with the plea

HERE IS THE PROBLEM

What pay, if any, do your volunteer firemen receive? Callmen? Special fire-fighters drafted at the fire?

How are these men paid when responding to calls outside the city limits?

In view of the pay granted, does the village attempt to control who shall join the Fire Department?

that the State Controller would not allow it paid. We are hoping to have this matter brought before the voters at the next town election.

John E. Weiland, Chief, New Lexington, Ohio: Members of our volunteer Fire Department, receive no pay, but an accident insurance policy of $2,000 is carried on each member. The Chief receives $120 per year and also is covered to the extent of $2,000, same as the members. We have no callmen. All twenty members make an effort to get out at each call. We average twelve men at each call.

We have an agreement with some of the townships to respond to their call, and are to receive $25 for each call, but we have been unable to collect.

The village does not attempt to control the membership, in any manner.

J. A. Falkner, Chief, South Euclid, Ohio: This department has nineteen firemen that is three full time paid men and sixteen part time men. Part time firemen are paid $2 per call each on all calls, except on field fires and false alarms for which the village pays them $1 per call. The personnel of this department is one Chief, one Assistant Chief and one Captain. The Chief is authorized by Council to draft not over 25 men for temporary service in case of fire emergency. Our part time firemen are paid $3 per man for all fire calls outside of our village. A charge is also made for the apparatus responding.

The Mayor appoints all firemen and policemen, sometimes on the Chief's recommendation.

The three full time men work eight-hour shifts and sixteen hours off, with time off twice a month at which time each man shifts from: 8 a.m.-4 p.m.; 4 p.m.-12 midnight and 12 midnight to 8 a.m.

H. M. McPherson, Cape May Court House, N. J.: Members of the company do not receive any pay whatever for their services, nor do those drafted at a fire, unless drafted by a district fire warden for forest fires.

As we have a county association of fire companies, no charge is made for service outside the district limits. We are all subject to the call of the Chief of another district without charge.

The fire company itself controls its membership. The number is confined to thirty-five men and when a vacancy occurs it is filled by the nomination made by some member of the company and an election by the company.

Harry R. Nissen, Clerk, Port Clinton, Ohio.: Firemen receive one dollar per hour for services, and this includes all who participate at the fire. The township pays the village $15 and the firemen $15 for fires outside the village.

The Mayor appoints the firemen at the recommendation of the Chief.

John J. Bower, Chief, Bellefonte, Pa.: The Fire Department of the borough of Bellefonte, Pa., as organized by ordinance, consists of two companies that select their own officers, and are not restricted as to their membership. The Chief of the department is elected by Council and the entire department is under his supervision.

The service rendered is entirely voluntary. There are no salaries, except that one man in each company is paid $10 per month for washing and caring for the apparatus. Washing and drying of hose is paid for as required and is based on the number of sections.

Where watchmen are detailed to the buildings after the return of the department to quarters they are paid such sums as are deemed adequate by the Chief.

No compensation is received for out of town services either by the borough or the companies and contributions for such service are divided 66 per cent to the borough and 34 per cent to the company responding. All out of town calls are answered by one company, No. 1 in odd numbered months and No. 2 in even number months.

Each company receives $375 a year and heat for the engine houses. All department supplies are purchased by the borough and it pays for repairs to equipment.

The department is equipped with one 1,000-gallon triple combination, one 750-gallon quad and two 400-gallon triple combinations.

THE PROBLEM FOR THE NEXT ISSUE

Due to the large response from Fire Department officers to this question, the discussion has been divided in two parts and will be continued in the next issue.

In addition to the foregoing, the borough pays for cleaning and pressing of clothing and for clothing damaged while working at a fire.

Lawrence Perry, Chief, Glen Ridge, N. J.: We pay a few volunteers twelve dollars a year. We have not many such men and those so employed are usually older men who are useful in doing duties outside of actual fire-fighting.

We rely heavily on callmen of whom we have twelve. We pay them forty dollars a year, if they answer at least eighty per cent of the alarms. If less than eighty their remuneration is scaled down accordingly. Inasmuch as the callmen get their forty dollars a few days before Christmas it places them under fine discipline and makes them eager to respond to alarms.

No difference is observed in fighting fires outside city limits. It is regarded as in line with ordinary fire duty.

The Chief recommends the appointment of new firemen. An association known as the Fire Department Association composed of our six paid men, twelve callmen and several volunteers then elect them to the department. Upon the recommendation of the Chief, and after proper medical examination, the Town Council approves of the man's appointment and election. The Council exercises no other supervision in the appointment of firemen. It merely approves and accepts the Chief's report on the man's qualifications.

W. S. Crane, Chief, Little Falls, N. J.: The Chief of our department receives $200 per year, the Assistant Chief $25 and firemen each receive $12 per year. The day alarm operator's salary is $1,200 a year and the night crew of six men are paid one dollar per night each.

Applicants to the Fire Department must pass a physical examination by the township physician.

M. C. Heller, Chief, Orrville, Ohio: Our volunteer Fire Department is composed of twenty-five active firemen. We receive one dollar per hour or fraction thereof, same being paid from the general fund by the city.

We receive the same pay for fires outside of city limits and in return the Trustees of the townships we serve pay into the general fund of the city $200 per year.

The city has nothing to say in regard to the personnel of the Fire Department. We ballot on new members, elect our own Chief, Secretary, Treasurer, Foremen, etc. The Chief appoints all drivers and committees.

Wallace E. Armer, Chief, Chula Vista, Cal.: Our volunteers, or perhaps they could be called callmen, receive one dollar per drill for three drills a month. On fires they receive one dollar per call, and one dollar per hour after the first hour. We haven't found it necessary as yet to draft any one into the service. I believe that I would have to be pretty hard pressed before doing so, mainly on account of insurance. I don't think that persons or person drafted into the service would be covered with our policy with the State Compensation Insurance Company, and in case of an accident, I am afraid that the city would be open for a lawsuit.

The city fire apparatus does not answer calls outside of the city limits.

The city councilmen do not try to control the membership of the department, although it is within their power to do so if they so desire. Up to the present date the decisions as to qualifications and admittance have been rendered by the organization.

H. E. Emrich, Chief, Haworth, N. Y.: In the way of remuneration, we are entitled to $12 per year, but in view of the close cooperation between ourselves and the Borough Council, in the way of supplying apparatus equipment, hose, etc., which they give us without hesitation, we have never asked for it. We are not even paid for damages to personal clothing.

Thomas B. Malone, Chief, Hightstown, N. J.: Volunteer firemen receive $12 per year. We never draft any men at a fire as we are all insured and if any were drafted the Chief would be held liable.

When responding to outside calls we receive no extra pay but the Borough gets $25 per fire.

When a man wishes to join the fire company his name is submitted to the Mayor and Council if they approve of him then we ballot on him.

A. C. Blaine, Chief, Camp Hill, Pa.: Our volunteer firemen receive no pay for services although the borough does buy hose and pays the ordinary running expenses of our apparatus. They also furnish us with light and heat and quarters for the apparatus and a social hall. The borough owns the building.

We have never expected any pay for out-of-town calls for we are glad to help the other fellow. We have, however, received nice contributions from time to time.

Borough officials do not interfere with the fire company, and the cooperation is excellent. It might be said that the fire company owns the truck.

D. E. Adams, Chief, Chateaugay, N. Y.: Our volunteer firemen get one dollar per call for the first hour and fifty cents for each extra hour. We have no special call men.

We are not paid for outside calls unless the parties calling see fit to give us something, which does not happen often.

The village does not dictate who shall join the company. That is up to the company.

Gail N. Burrows, Chief, Chester, N. Y.: Volunteer firemen in our department receive no compensation whatever. Callmen for still alarms get no pay either. We never have called any special fire-fighters.

We have a paid fire district outside of the village for which the village receives $750 a year. Firemen respond to calls voluntarily and if they do not answer the roll call they are fined.

All men are elected by the fire company, and approved by the Village Board of Trustees and they are insured.

P. H. Snyder, Chief, Blairsville, Pa.: Firemen in our department do not receive any compensation for their service. No pay is received for calls outside of city limits. Occasionally we receive a donation from the community which we have served.

I think volunteer firemen should receive some compensation for their services in responding to calls outside of city limits. Insurance companies should be compelled to pay for all runs made outside of city limits as they are really the people who are benefited, if insurance is carried.

* * *

ANSWERS TO PREVIOUS QUESTIONS

The following replies are in answer to a previous question on suggested arrangements for reducing the number of arson fires, and the cooperation of police in running down arsonists:

A. McC. Marsh, Chief, Columbia, S. C., 51,000: When we have what appears to be a crooked or set fire, we refuse to have goods or stock moved until a board of arbiters is called to check and examine goods or stock damaged by fire. The adjuster, who cooperates with us 100%, is also called in to adjust the actual loss. We feel that this method has reduced arson in our city to a minimum.

When a person conducts a fire sale here he must pay a license tax on same. He must also establish a bond, approved by the City Clerk, to the effect that such persons conducting the fire sale will not mislead the public by any false or untrue advertising, or by holding back and not offering for sale any part of the stock. He is also not to purchase stock from any other source and sell it as the original stock damaged through fire. Should any of the above provisions be violated the offender, on conviction in the Municipal Court, is liable to fine or imprisonment.

The City Council has passed an ordinance giving the Chief of the Fire Department the authority to appoint two detectives to cooperate with him in running down arsonists. These city detectives are very cooperative in their work. It is a real pleasure to work with them.

The following replies were received in answer to a previous question on the installation of sprinklers in public schools, the use of smokeproof towers in schools not fireproof, and the steps taken to insure good school instruction:

John J. Towey, Chief, Newark, N. J.: The majority of the state and municipal building codes call for the installation of adequate standpipe systems in public schools.

If such systems are properly constructed and installed according to law, it is my opinion that they provide sufficient protection to schools in case of fire. While sprinklers in schools are very desirable, standpipes are equally important from a fire-fighting viewpoint. In case of fire, several well directed streams from standpipes will prove very effective and water damage can be kept to a minimum because of the fact that the standpipe may be shut down at any desired time.

In school buildings, absolutely fireproof, sprinklers are apt to cause considerable damage to books and equipment, as there is a possibility, through mechanical defect, that they might go off even though there were no fire. On the other hand, in vocational schools where large rooms or spaces are set aside for use as carpenter, paint, machine and automobile shops and where there is a likelihood of large quantities of combustible materials, it is essential that such schools be sprinklered. Today, it is the practice to locate schools away from other buildings, but in cases where they are in close proximity to other non-fireproof buildings, they should be protected from the communication hazard by the installation of outside sprinklers.

All non-fireproof schools should be provided with fireproof or smokeproof towers. Such schools should also be sprinklered, since there is an abundance of combustible material upon which the fire can feed. The tower should be absolutely fireproof and should have at least 100 square feet of floor area. Walls should be not less than eight inches in thickness and all floors, stairways, corridors, balconies or escapes leading thereto must also be fireproof. Access to tower must be provided for at all floors by means of fireproof balconies and vestibules, which should be provided with substantial hand rails. All doors should open outward at all avenues of escape.

Since the safety of children in schools is a responsibility every fireman must bear in mind, I have ordered monthly inspections of schools while pupils are in session, by thoroughly qualified inspectors of the Bureau of Combustibles and also by commandants of companies. Written reports concerning the maintenance and care of all equipment such as auxiliary fire appliances including standpipes, sprinklers, hose, extinguishers, fire towers and fire escapes are submitted by the inspectors to headquarters. Much attention is given to stairways. corridors, aisles, vestibule and exit doors to see that they are kept free and clear of any obstructions and that they are easy to operate. Special attention is given exit doors to see that they open outwardly.

Locker rooms, closets and store rooms are inspected for rubbish. All lighting and heating plants are gone over for defects.

The teaching personnel is requested to conduct fire drills at least once a week. Once a month the inspectors conduct drills against time, noting causes of delay together with any other feature in connection with the drill.

All assembly rooms and auditoriums are rigidly inspected at frequent intervals.

The construction of school buildings in this city must be in accordance with the laws and ordinances contained in the Building Code. They must be fireproof and equipped with modern fire-fighting appliances.

Rules that govern theatres and motion picture houses are applicable to schools that show educational or other instructive films. Storage of such films must be in fireproof cabinets, or rooms adequately protected against fire.

All violations or other fire hazards in schools are immediately directed to the attention of the Board of Education with the request that such condition be remedied at once.

Recommendations for improvement and fireproofing or fire prevention are likewise taken up with the Board and I am pleased to say the department receives excellent cooperation in its efforts to protect the children of our city from injury or loss of life by fire.

Strict observance of weekly fire drills and the importance of drills brought to the attention of children in the schools will be of inestimable value in time of emergency.

Answering an alarm of fire turned in from a school results in a full quota of companies, four engines, two trucks and a rescue company.

Officers and members of the department have been impressed with the importance of leading pupils from the building at once in a quiet and orderly manner to a place of safety far enough away from the danger zone.

Wm. J. Lutz, Chief, Wilmington, Del.: All the old type schools are being replaced with modern up-to-date fire resistive buildings. I have recommended in the annual report that all schools be sprinklered, that fire alarm

boxes be placed in each school. Response to all school boxes should not be less than four engines and two truck companies during sessions.

Safety is the motto in school construction. All schools in this city have fire towers and proper exits and are made as safe as possible.

The school building program has been under way in this State for the past eight years. New, modern fire resistive buildings are replacing the old ones and there are some very fine schools here.

Fire drills are held every two weeks under supervision of the Fire Department officials. All schools are inspected each Monday of the week.

Edmund B. Lewis, Chief, Scranton, Pa.: Installation of sprinkler systems in Public Schools is very essential and we urge their installation in all schools.

All new public school buildings erected in Scranton are provided with smokeproof towers, and it is my sincere belief that all schools should have them.

The construction of public schools in Scranton comes under the jurisdiction of the State Labor and Industry Department.

Fred J. Washburn, Chief, Auburn, N. Y.: In all schools not of fireproof construction, I recommend automatic sprinkler systems, as a greater protection of life and saving of money on fire insurance.

Smokeproof and fireproof towers in schools not of fireproof construction would tend for a safer and speedier emptying of the building in case of fire. I would recommend that all new schools be so equipped.

The State Board of Education has charge of all school construction and changes therein. Regular inspections of all our schools are made by members of the Fire Department checking on fire drills, fire exits, panic locks and heating plants. On our recommendations, the compliance is practically one hundred per cent. In our public schools every exit door is equipped with panic locks.

Harry J. Brown, Chief, Reading, Pa.: Fire prevention in public schools is a matter which is one of my first interests.

So far as they go, sprinklers are good fire protection measures, but here in our city, I could not conscientiously recommend them for our schools in preference to anything else, because most of them do not have night watchmen, which means damage to books, records, furniture, etc. The water damage would be greater as it is problematical how long it would be before the right man was gotten hold of who could shut off the water. The same is true when a sprinkler head accidentally goes off. Of course if our sprinklers could be connected up electrically with an outside company which makes a business of supervising sprinkler systems, then the Fire Department would immediately get an alarm when the water started to flow. This is highly important in the case of a fire, because all we ask is a prompt signal, and the opportunity to get on the job at once.

Where we have no night watchman in our school buildings here, a fire could gain a lot of headway during the nights, holidays, Saturdays and Sundays before one of the neighbors or passersby would send an alarm. All things considered, I am more in favor of the fire detecting system which automatically signals the Fire Department the very minute any fire starts anywhere in the building. In other words, it's not the sprinkler that counts the most, it's the organized Fire Department which does the real work at any fire. It's the Fire Department which puts out the fire, salvages as much property as possible, and keeps the fire from spreading to other nearby buildings. Then I am interested in being notified the minute any fire starts.

P. J. Hurley, Chief, Holyoke, Mass.: I believe that school houses should be sprinklered in basements, hallways, closets and attics. All schools over two stories high should have smokeproof towers.

The Superintendent of Schools tries to cooperate with the Fire Department in every way he can to make the schools safe. He believes in sprinklers and enclosing stairwells, with glass partitions to make them smokeproof.

Lawrence E. Reif, Chief, New Haven, Conn.: All public schools if not sprinklered throughout should at least be sprinklered in the basement.

All schools should be compelled to have smokeproof towers, if not sprinklered.

School buildings should not be over two or three stories high, they should be fireproof in construction, sprinkled throughout, and with smokeproof towers. They should meet all city or state requirements to safeguard the lives of the pupils.

Henry A. Fox, Chief, Boston, Mass: I am a great believer in sprinkler systems, and feel that they should be installed in the basements of all school houses, and in the case of old type structures with blind attics, they should be in attics as well as in basements.

I am heartily in favor of smokeproof towers as common sense would tell us that any means devised for the saving of life is a step in the right direction.

The regulations of the Building Department of this city govern the construction of all buildings and provide for the proper protection in this regard.

John A. Fisher, Chief, Duluth, Minn.: Sprinklers in schools would be a big improvement. Nothing like a watchman on the job always, especially where the janitors keep oily mops, etc. (by watchman I mean the sprinklers).

If the smokeproof towers are also fireproof, as I presume they are, they should serve as a good fire exit and cut down the loss of human life in our school fires. If the entrance to the tower is panic proof and they have proper outlets they should prove effective.

I see that specifications for schools include fire resisting materials, that vents and air ducts are properly placed and we have the fire wardens oversee the construction of building until complete. Naturally we have our fire drills when school is in session and old buildings are guarded carefully. When a public building is being constructed, it is well to make them abide by the Code of your city. Modern schools in and adjacent to Duluth are a credit to the nation insofar as fireproof construction and safety are concerned. No new buildings have been constructed since my reign as Chief.

R. E. Whalen, Chief, Elgin, Ill.: I believe all schools should have sprinkler systems installed as most school fires originate after the buildings have been vacated and are not discovered until they have gained headway. Sprinkler systems would retard, if not extinguish them.

Smokeproof towers should be installed in all schools for the safety of children and teachers. Our department, with the cooperation of the State Fire Marshal's office, have ordered smokescreens installed in most of our old school buildings this year.

Our building code calls for fireproof construction of all new school buildings with proper exit facilities, our last school was constructed on this basis.

James Welsh, Chief, Eau Claire, Wis.: I am absolutely in favor of automatic sprinkler systems in public schools. Let us remember the Collinwood and Peabody holocausts.

I also believe smokeproof towers with an entrance on all floors above the second story to be an excellent installation for schools.

Our city authorities are in favor of fireproof school buildings. Recent constructions have been along this line. Personally, I feel that the first floor of a non-fireproof school building should be an unbroken fireproof section with entrance to basement outside of building proper.

Edward F. Dahill, Chief, New Bedford, Mass.: I have always recommended automatic sprinklers for school buildings in this city. Smokeproof towers may be of value, but I prefer automatic sprinklers.

I have always favored fireproof construction for school buildings.

We have in this city: 10 fireproof school buildings; 22 brick school buildings with automatic sprinklers, 2 frame school buildings with automatic sprinklers and 20 one-story portable schools.

Geo. Boughner, Chief, Grand Rapids, Mich.: All schools not built of fireproof material should have a sprinkler system. All ventilation should be through fireproof flues.

All schools built in the last fifteen years have been of fireproof construction. Old schools have sprinklers in the basement. Fire escapes have been cut through partitions, making it possible to reach fire escapes without entering halls. We drill the school children once each month.

S. D. O'Conor, Chief, Beaumont, Tex.: All schools which are not of fireproof construction should be sprinklered and even those which are supposedly fireproof should have sprinklers on stage, cafeteria, and store rooms. We spend money to keep our children in good health

and then send them to schools that are fire traps, to be cremated.

School buildings cannot be too safe; if a smoke tower is what it needs, that is what it should have.

Fire drills are required and held twice and three times monthly, and all buildings are equipped with slide type fire escapes.

Daniel H. Shire, Chief, Mason City, Ia.: All public schools should be required to install automatic sprinklers regardless of construction. In schools that are not of fire resisting material, smokeproof towers should be installed.

We have been able to secure good school construction of late years by explaining to the school board the danger to life caused by improper construction. The School Board has been fair and has carried out all recommendations made by the department that it was possible for them to do with the money they had.

We feel that a sprinklered school, with good fire escape condition, is essential to life in case of fire.

James J. Evans, Chief, Everett, Mass.: I am a firm believer in sprinklers in schools and other public buildings. I also believe that these installations should have supervisory service, for a system is only as good as its supervision.

Smokeproof towers are excellent and should be installed in all schools. To do this means a "battle royal" with economists and other persons who are always pretending to fight the cause of the poor taxpayer. When a great holocaust occurs, such action is too late. A glaring example of this is the Morro Castle disaster.

In Everett the Building Department and our Fire Prevention Bureau work hand in hand and on all building work the recommendations of our Fire Prevention Bureau are carried out. One member of our Fire Prevention Bureau is assigned to public buildings and he supervises periodical fire drills in all schools. Our inspection of these buildings is very rigid. In all our newer schools the fire alarm is connected direct to our fire alarm office.

RETIRED NEW YORK FIREMEN APPOINTED FOR DUTY ON SHIPS

Following Weak Fire Defenses Revealed by Morro Castle Disaster, Twelve Retired Firemen Will Serve as Fire Guards on Ship

By William Jerome Daly

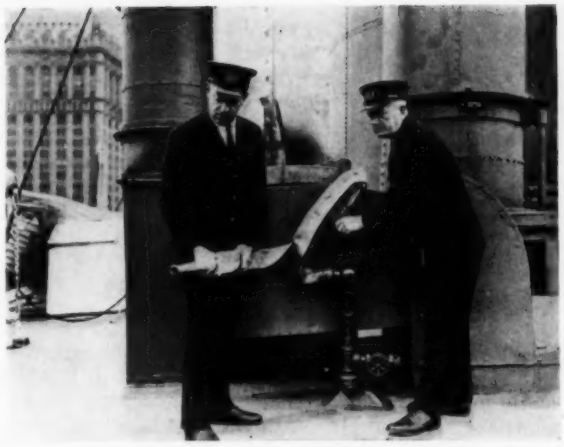
As an aftermath to the unfortunate Morro Castle steamship disaster on September 8, some American steamship lines are planning to employ retired fire fighters as fire guards on ships. The United Fruit Line made the announcement recently that twelve former members of the New York Fire Department had been employed on six passenger ships. The ex-firemen were recommended by Fire Chief John McElligott, of New York, at the request of the steamship company.

Immediately after the Morro Castle fire, Chief McElligott was interviewed by a New York newspaper columnist in which the reporter asked if Chief McElligott had any ideas as to what might be done to help prevent, or at least reduce, the fire hazard at sea. The Chief suggested the employment of retired fire fighters, preferably those who had marine experience, either in the navy or on fireboats.

The United Fruit Line was the first to adopt the suggestion. The steamship company called on the Chief for recommendation of some dependable men. Twelve were selected and employed immediately. They rank as petty officers, are responsible to the Captain only and receive $80 a month, plus meals, quarters and uniforms, and have their own separate cabins in the officer's section of the vessel.

It is their duty to patrol the ship, particularly at night, inspect and maintain all fire-fighting appliances, drill the crew in fire prevention and fire-fighting practices; report derelictions on the part of the crew to the Captain; hold themselves available and ready for instant action wherever convivial parties or social assemblages are present in lounge, library, salon or ball room.

It is the intention of the United States Department of Commerce to prevail on all United States Shipping interests to add trained fire fighters to the officer personnel of all passenger vessels flying the American flag. The success of such a plan on ships of the French Line is well established, but the plan did not become operative until after two French steamships had disastrous fires.



Two of the Retired New York City Firemen on U. S. Fruit Line

The acquisition of retired firemen for such special duty on passenger ships comes in the wake of the distasteful and uncomplimentary impression created by a New York City fireman who was a passenger on the Morro Castle and whose testimony before the U. S. Steamboat Inspector's inquisition into the disaster was anything but helpful to the escutcheon of the fire-fighting profession. In all fairness to that fireman, it should be reported here that he was not his normal self the day he testified.

At all events the innovation of trained firemen on passenger ships will be observed with avidity by both the proponents and the critics of the idea. Incidentally, practically every newspaper in New York has editorially commended the innovation. It is hoped that the steamship companies will continue to maintain this vigilance and make fire guards a permanent part of the ship's personnel, and not fall into the error that so many commercial corporations are guilty of—that of relaxing such vigilance after the Morro Castle disaster is forgotten. Fire doesn't forget, if men do.

Resolution on Shunt Boxes by I. A. M. E.

At the thirty-ninth annual convention of the International Association of Municipal Electricians, held at Washington, D. C., on August 29 to September 1, a resolution was offered by Charles K. Ahearn, Superintendent of Fire Alarm, Waterbury, Conn., and seconded by William F. Qualls, Fire Alarm Superintendent of South Bend, Ind., that "This Association go on record for the adoption of the principle of the shunt type box." The resolution was unanimously carried.

Rhode Island Chiefs Resume Meetings

Following a summer recess, monthly meetings of the Fire Chiefs' Club of Rhode Island have been resumed. At a meeting held at the Narragansett Hotel, Providence, on October 11, Chief Frank Charlesworth of Providence, President of the club, presided and introduced T. Z. Franklin, Hartford, Conn. He described how fires are caused in homes, factories and other type buildings. He used working models and equipment.

The association elected Mr. Franklin and Benjamin De Angelis as honorary life members.

The meeting was preceded by a dinner at which 125 members attended.

The department car of Chief Olander Lind, Kansas City, Kan., Fire Department, has been provided with facilities for carrying on a two-way radio communication with the dispatcher at police headquarters or with policemen riding in radio equipped district cars.

Questions and Answers

NOTE—Readers are invited to send in questions, which will be answered in the order received. Names are omitted from questions unless otherwise specified

Nozzle Pressure and Discharge

To the Editor:

Will you kindly answer the following questions?

1. Eight lengths of 2½-inch hose with a 1¼-inch nozzle are laid from an engine into a subway 25 feet below the street level. With 35 pounds at the nozzle what is the discharge?

2. If a 1⅛-inch nozzle is substituted, and the engine pressure remains the same, would the nozzle pressure be greater or less than that given above? B. M. A.

Answer: Question 1 would be answered as follows:

Discharge in gallons per minute equals 30 x d x d x p.

Where "d" is the nozzle diameter in inches, and "p," the pressure in pounds per square inch at the nozzle.

The discharge equals 30 x 1.25 x 1.25 x $\sqrt{p}$, or 278 g.p.m. approximately.

Question 2 would be answered as follows:

That portion of the nozzle pressure provided by the elevation of the engine over the nozzle is found as follows: 25 feet plus 4 equals 29 feet. 29 x .434 equals 12.586 pounds. The four feet in the above is height from the street to the engine gauge, which records the engine pressure.

Thus the engine is, in the first instance, providing a pressure at the nozzle of the difference between 35 and 12.586, plus the friction loss in the line.

If the nozzle size is reduced from 1¼ inches to 1⅛ inches, then the engine, at the same engine pressure, will be able to give a greater pressure at the nozzle.

Sprinkler Tanks, Fire Streams, Etc.

To the Editor:

Will you please answer the following questions.

1. What determines the size of a tank for a sprinkler system? What is the average flow of water through a sprinkler head?

2. Inspect a theatre in regards to fire hazards. Inspect a theatre with moving pictures in regards to fire hazards, giving details of such inspection.

3. What are the means used to get a stream on a fire, where a 2-inch tip is employed? What are the hindrances in using this stream, and what are the means employed to overcome the same?

4. How would you extinguish a coal pocket fire? What special tools and appliances would you use?

5. What instructions should you give a new recruit in the following (a) pipes and nozzles; (b) entering buildings charged with smoke; (e) siamesing lines of hose; (d) handling roof lines? D. M.

Answer: 1. Where there is only one building to be supplied, the usual method for determining the proper size of tank to furnish water to sprinkler heads is as follows: figure the amount of water needed to supply one quarter of the sprinklers on a floor for twenty minutes. This amounts to practically the same thing as taking 100 times the number of heads on a floor, assuming as average elevation of 25 feet for the water in the tank above the sprinklers. Thus, if there are 150 heads on the floor, a 15,000 gallon tank should be used. If the other supply is exceptionally good, a somewhat smaller tank might be used, but if the supply is weak or if there is not another supply, a much larger tank would be desirable.

In hazardous risks where quick flash fires opening many heads are liable to occur, larger tanks are also desirable.

As a general rule the capacity of a gravity tank for sprinkler systems should never be less than five thousand gallons and preferably not less than 10,000 gallons capacity.

The average flow from a sprinkler head at different pressures is as follows:

Pressure at Sprinkler Pounds	Water Discharged Gallons	Pressure at Sprinkler Pounds	Water Discharged Gallons
5	15	20	28
10	19	25	31
15	24		

2. In making an inspection of a theatre the following points should be observed; that doors open freely outward, that no obstructions are placed in aisles, or in stairways or the approach to aisles of the various exits. Observe whether or not illuminated exit signs are in condition, also inspect standpipes, valves, hose and nozzles to see that they are in condition and available for instant operation. That extinguishers are properly charged and that nozzles thereon are not plugged. That fire alarm boxes (if such are provided) are available and not obstructed from view. That fire curtain is in condition and readily operated. That sprinkler valves are not closed. That fire buckets and other fire prevention appliances are ready for use. That there is no rubbish under stairs or in dressing rooms. That the "no smoking" ordinance is properly enforced. That skylights over stage are operable. That housekeeping throughout the theatre is carefully maintained.

In addition to the above, where motion pictures are employed, inspection would include motion picture equipment. See that booth is properly constructed and the equipment therein is properly maintained; that films are stored in a carton meeting fire department requirements; that electric wires are safe; also that projection booth in no manner interferes with the prompt and safe egress from the building.

3. First, a good supply of water at a pressure is provided; siamese lines or parallel lines to the equipment, fitted with the 2-inch nozzle; proper means of manipulating heavy stream would include pipe holder, deluge set, deck gun or water tower equipment.

The chief hindrances in using a 2-inch stream are: difficulty in directing it; difficulty in getting the stream to a point where it will operate effectively.

The use of heavy stream controlling apparatus such as pipe holders, deck guns, etc., remedy the first problem; the use of water towers to a large extent remedies the second situation, particularly where the fire is burning on the floors within reach of the tower either extended or telescoped.

4. Coal pockets fall into two general classifications, concrete and plank construction.

The concrete pocket offers a simpler problem insofar as fire fighting is concerned, so that the methods of handling a fire in a wooden pocket will be described.

If the fire has gained much headway, collapse of the pocket may be expected. If it is a multiple pocket and if the fire is confined to one section, then the best thing to do is to make an attempt to drench this particular section. All operations must be from the top of the pocket, for there is no effective means of operating on the fire other than throwing water on the top of the coal and letting it drain through. The fire in the woodwork of the coal pocket, particularly where fire has broken through, should be handled in the same manner as any other structure, the structure being washed over quickly with good size streams.

Once the structure has been wet down, lines may be gotten into operation by means of ladders or other available paths to the interior of the coal pocket. Large quantities of water will be required. A tremendous amount of heat will be created by the burning of the coal, and in order to cool off the burning materials to a point below their re-ignition point, considerable water will be required.

When directing streams, particularly in the early stages

of the fire, care should be observed not to displace the quantities of dust which may be found lodged on ledges of the pocket. Explosions have occurred due to coal dust in air, which will ignite when coming in contact with the open fire.

Once the bulk of the fire has been brought under control, then wetting down operations will depend entirely upon the condition of the pocket. Usually the coal can be thoroughly drenched from the top. However, if the water does not reach the fire burning in the lower portions of the coal, it may be necessary to open the hoppers so that the coal at the bottom can be brought out where it can be struck with streams.

Precaution should be observed by the officer in command to protect the men against injury in case pocket collapses. The fire will weaken the structural members of the pocket and the additional weight within the pocket, due to the discharge of large quantities of water therein, may so overload the pocket as to cause it to burst, spreading coal and possibly fire in all directions. If there is an indication of the pocket giving away, lines should be in readiness to cover exposed structures in the immediate neighborhood.

As noted above, large streams will be required. A water tower, if immediately available, may prove very valuable in getting the streams in the early stages of the fire into the burning pocket.

Special appliances required in operating at the coal pocket fire including large nozzles, nozzle holders, axes, ladders. Water tower and deck guns may also be brought into play in some instances.

5. (a) Size of pipes and nozzles used on different occasions; pressures and methods of operating shut-off or controlling nozzle; methods of employing large nozzles with holders; methods of determining proper size of pipes or nozzles for different layouts of hose; desirable pressures on different sizes of pipes and nozzles for different ranges; necessary water supply and pressures to provide satisfactory streams with different size pipes and nozzles.

(b) Methods of effecting entrance; methods of proceeding through smoky buildings to seat of fire including precautions to safeguard against accident and to insure safe exit in case of emergency; principles of ventilation; causes and dangers of back draughts.

(c) Purpose of siamesing lines of hose; advantages secured thereby; layout necessary for handling large size nozzles; determining necessary pressures on lines which are to be siamesed into single lines or to single pipe.

(d) Methods of getting roof lines to roof; precautions to prevent accidents such as securing lines where high pressures are to be employed, or where roof is slippery; use of hoses on roof and necessary precautions to eliminate accident; determining pressures necessary at engine or hydrant to produce satisfactory pressures on nozzles attached to roof lines.

Chief George Haggerty Honored

Chief George Haggerty, of Berkeley, Cal., was tendered a luncheon by the local lodge of Elks at their club house to honor his completion of thirty years as a member of the Fire Department. Chief Haggerty thanked members of the Elks for their support during his thirty years as a fire fighter. Through the cooperation of the National Board of Fire Underwriters, motion pictures were shown of outstanding fires in the United States.

School for Motor Apparatus Operators

"Motor and Pump Operators' School," is being held at the Fire College of the New York Fire Department. The curriculum consists of instruction and study of the construction, care and operation of motor fire apparatus, motors and pumps, high and low pressure hydrants, thawing devices, the relation of fire pump service in buildings equipped with standpipe and sprinkler systems to the fire pumps on apparatus, and the delivery of effective fire streams. Cross sections of motors, pumps and other essential parts will be used to give individual instruction.

Those who show sufficient interest during the course and who pass a satisfactory examination will be designated as chauffeurs and pump operators through the special orders of the Department.

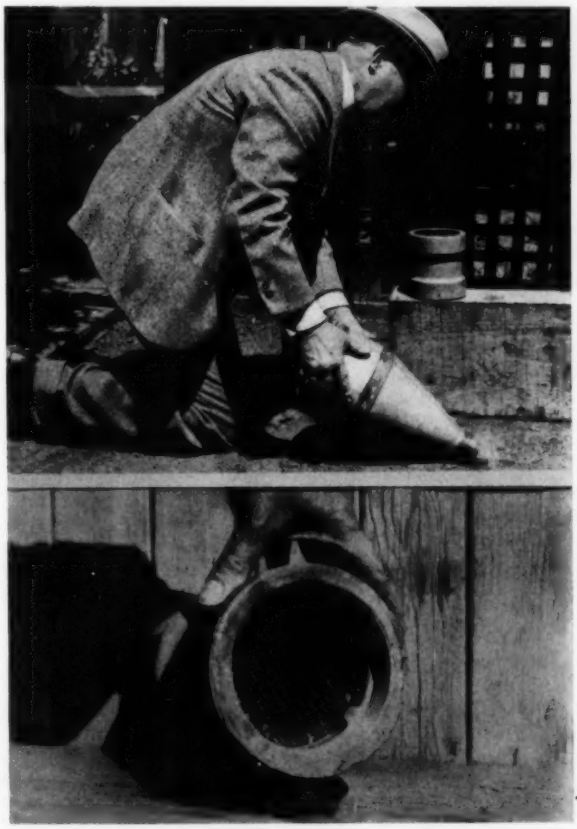
Arkport, N. Y., has received new fire apparatus purchased at a cost of $6,000. It is the result of agitation which followed the loss of life by fire last year.

Checking Gasoline Explosions

A stop-explosion device for use in automobiles, motor boats and airplanes was demonstrated at San Francisco, to show flames from a carburetor can be prevented from reaching the gasoline supply tank and thereby starting an explosion. One of the devices is installed in the outlet of the gasoline supply tank and one is placed along the gasoline supply line between the gasoline tank and the carburetor.

Should the gasoline supply line spring a leak or even break, no flame could travel back into the gasoline tank and thereby start an explosion.

In order to demonstrate the efficiency of this wire screen construction, the inventor, Henry J. Bucking, San Francisco, fastened one of the wire screen baskets into the top of a special test tank. Gasoline was then poured through the screen into the tank. The test gasoline container was constructed with the upper part forming a cone to create more severe conditions. A lighted match was placed at the top opening. After the flame had burned freely for several minutes, there was no exxplosion. The inventor picked up the tank, held it upside down so that some of the gasoline poured out, and still there was no explosion.



Two Views of the Device to Stop Gasoline Explosions

Upper—Demonstrating the ability of the screen to prevent flames reaching the inside of the cone shaped tank. Lower—Basket screen showing two layers of screens inside the casting.

Claims are made that the device can also be used in gas piping in buildings and in street gas mains. It also can be placed in the outlet and inlet of gasoline storage tanks at service stations.

C. W. Geiger.

A 1,000-gallon pumper has been delivered to Freeport, Pa.

Henry Esler, newly appointed Chief of Kaukauna, Wis., has introduced a schedule of drills three times a week.

A pumper has been delivered to Port Jervis, N. Y. The event was celebrated by a spaghetti supper attended by firemen and their friends.

New England Chiefs Have Woman Member

Miss Nell J. Anthony, of Washington, D. C., has the honor of being the first woman member of the New England Association of Fire Chiefs.

Miss Nell J. Anthony

She attended the Great Lakes Convention of the International Association of Fire Chiefs on the steamer "Seeandbee" a year ago and made many friends among the New England chiefs. She is a sister of Mrs. Harry Belknap, wife of the New England correspondent of FIRE ENGINEERING.

Miss Anthony was born in Douglas, Wyoming, and at present is with the Western Union Telegraph Company in Washington.

She is proud of her associate membership in the New England Chiefs' organization and is already making plans to go with the crowd on the New England special to the International Convention in Knoxville, Tenn., next fall.

Last winter while on a visit to her sister in Boston, Miss Anthony attended a fourth fire alarm fire, two third alarms, and one second alarm blaze, and assisted in serving coffee to the firemen. Among her credentials is a fire line badge of the Brookline, Mass., Fire Department.

Fairfield County "Chiefs' Plan" Meets

Considerable discussion was held on the subject of the closing of rear and side doors of taverns by the Liquor Authority Commission of Connecticut and the hazards involved by the members of the Fairfield County, Conn., Fire Chiefs' Emergency Plan at its regular meeting at fire headquarters, Shelton, Conn., on the evening of Wednesday, October 24. Letters were read from the Commissioner of State Police and the Liquor Authority Commissioner, setting forth the attitude of each on the subject, and it was brought out that when a rear door is opened by order of the Chief of the Fire Department, the proprietor of the tavern will lose his license, on the ground that the building is unsuitable for such use. One member suggested making a test case, when one of the licenses had been revoked by the Liquor Commission. It was finally decided that little could be done in the matter until further legislation was enacted.

The members of the Plan were welcomed by Mayor Shelton and Commissioner Merwin, of Shelton. Several new members were elected. A paper on "Discipline in Its Relation to Efficiency in the Volunteer Fire Department" was read by Robert H. Lockwood, Associate Editor of FIRE ENGINEERING.

A motion to form a Legislative Committee of three, to cooperate with such committees of the State Chiefs' and State Firemens' Associations, was carried, and President Knickerbocker announced that he would appoint the committee before the next meeting.

Several Chiefs from the neighboring county of New Haven were present and made short addresses. Among these were Chief Reif, city of New Haven; Chief Joyce, of West New Haven and Chief Swan, of Seymour.

A demonstration of the E. & J. Resuscitator and Inhalator was given by Mr. Stevens, of the E. & J. Company, of Los Angeles, Cal. The next meeting place was left to the decision of the Board of Directors. Refreshments were served by the local department.

Maine Chiefs Meet at Portland

The quarterly meeting of the State Association of Fire Chiefs of Maine was held in Portland on October 9. Features of the session were a discussion of proposed revisions in the Maine arson laws and the presentation of certificates to graduates of the first Maine Training School for Firemen.

Chief S. A. Mercier, of Rumford Falls, presided at the meeting; City Manager James E. Barlow delivered an address of welcome, and Chief John W. Randlette, of Richmond, responded for the association.

Chief Oliver T. Sanborn, Portland, told of the success of the firemen's training school and introduced S. E. Patrick, of the State Department of Education, who presented the certificates to the graduates. During the afternoon there was a demonstration of drill evolutions. Schools will be held this year in Biddeford, Auburn, and Bangor.

Chief Charles O. Spear, South Portland, reported as Chairman of the Legislative Committee. A banquet was held in the Eastland Hotel.

The officers elected follow: President, Chief S. A. Mercier, Rumford Falls; Vice-President, Ex-Deputy Chief P. J. Cronin, Lewiston; Secretary-Treasurer, C. W. Bowker, South Paris; Directors, Chief Oliver T. Sanborn, Portland; Chief Eugene T. Ricker, Biddeford; Chief Joseph W. Randlette, Richmond; Chief Irving T. Doyle, Brewer; and Chief John F. Eldredge, Kennebunkport. HARRY BELKNAP.

Bill to Change Hours of N. Y. Firemen

The Board of Aldermen, New York City, passed a bill to provide a nine-hour day for city firemen with one day off a week. It must now pass the Board of Estimate before it reaches the Mayor, who indicated that he was not enthusiastic for the change. Should the bill become a law, five hundred men would be added to the department at an increased cost of $1,000,000 a year. The bill calls for the measure to become effective on and after January 1, 1935.

French Official to Study N. Y. Methods

General Paul Pouderoux, formerly Chief of the Paris, France, Fire Department, arrived in New York City on October 17 to study equipment and methods used by the New York Fire Department in fighting fires.

He has installed the latest preventive measures on the new French liner "Normandie," now under construction at St. Nazaire. Special squads of professional firemen, trained in the Paris Fire Department, are now being placed on all large French liners following the disastrous fire on the "l'Atlantique" two years ago. The "Ile de France," on which the General came over, carried twelve such experts and twenty-four other trained members as part of the regular crew. The special firemen report to the bridge daily at twenty-minute intervals.

Gen. Pouderoux Observes N. Y. Fire College Methods

Left to right, Fireman Andrew Miney, who served as interpreter and guide to the visitor, General M. Pouderoux, Captain John Kelly and a probationary fireman.

Niles, Mich., has placed an order for a new fire pumper.

Coeur d'Alene, Ida., has been selected as the place for the 1935 convention of the state firemen's association.

Massachusetts Chiefs' Club Meets

Chief Fred A. Clark, Attleboro, presided at a meeting of the Fire Chiefs' Club of Massachusetts held in the Parker House, Boston, on October 17. There was a large attendance at the luncheon preceding the meeting. Chief William C. Mahoney, of Peabody, told of plans for the introduction of a legislative bill providing for a system of contributory pensions for firemen throughout the state.

Chief William H. Hill, of Belmont, Secretary of the club, reported the deaths of Robert Maney, of Brookline, and of Ex-Chief Arthur Montmeny, of Chicopee.

Chief Daniel B. Tierney, Arlington; Chief John W. O'Hearn, Watertown; and Chief Selden R. Allen, Brookline, told of incidents which took place at the recent convention of the International Association of Fire Chiefs in Milwaukee, Wis.

Upon motion by Chief Allen, Past President of the International Association of Fire Chiefs, the club voted unanimously to bestow honorary life memberships upon Ex-Chief William C. Shepard, Pittsfield; Ex-Chief James M. Casey, Cambridge; Ex-Chief William H. Daggett, Springfield, and Ex-Chief Edward F. Saunders, Lowell.

Percy C. Charnock, of the New England Insurance Exchange, spoke on the growing menace of false alarms and gave figures showing the increase in needless and malicious alarms during recent years. HARRY BELKNAP.

WHAT'S BURNING?

THE following list includes fires of $50,000 loss and over in the United States and Canada, for the month of October, 1934. These figures, compiled from the telegraphic reports are based on estimates made at the time, and are subject to later investigation and consequent revision. Taken as a whole, however, they are an approximately correct view of the losses incurred. The figures represent loss in thousands of dollars.

Month Ending October 31	Loss in Thousands of Dollars
Seattle, Wash.—Dwelling of Wm. M. Bolcom, destroyed	50
Ogunquit, Me.—The Ontio Hotel destroyed	65
Santa Cruz, Cal.—A. K. Saiz Tannery destroyed	125
San Diego, Cal.—Grossmont Studio bldg. destroyed	65
McClellanville, S. C.—Dredge of Hill Dredging Co	180
Georgetown, Cal.—Fifteen business establishments	80
Florence, S. Car.—Kuker bldg. damaged	50
Kershaw, S. Car.—Whse. of Kershaw Bonded Whse. Co	60
Pawtucket, R. I.—Payne bldg., housing business establishments	50
Lewis, Que.—Whse. of Robin Hood Flour Mills destroyed	50
Traverse City, Mich.—Old Central high school destroyed	80
Fulton, Ore.—Grain elevator and warehouses	140
Cottage Grove, Ore.—Unoccupied sawmill property	50
White Oaks, N. Mex.—Plant of New Mexico Power & Light Co	80
Paducah, Tex.—Hotel and adj. property	60
Westfield, Mass.—Lumber yard of Marcoullier Bros. destroyed	80
Philadelphia, Pa.—Factory of Star Show Case Co., destroyed	80
Placentia, Cal.—Bradford Avenue Grammar School destroyed	80
E. Brady, Pa.—Hotel and other business property	60
Tacoma, Wash.—Plant of Clear Fir Lumber Co., damaged	250
Port Jervis, N. Y.—Globe Hotel and adj. property	65
Wilmington, Del.—Masonic Temple damaged	50
Kansas City, Kan.—Dwelling of L. C. Kline (Johnson Co.)	60
Brandon, Vt.—Methodist church damaged	50
Hudson, Que.—Property of Hudson Ice Co., adj. structures	170
Highwater, Que.—Hotel and adjacent property	50
St Regmond, N. B.—Sawmill of J. V. Landry, destroyed	50
Davenport, Iowa—Abraham's clothing store damaged	65
Portland, Ore.—Oceanic Terminal damaged	125
New Village, N. J.—Property of Edison-Portland Cement Co	50
E. Brady, Pa.—Hotel and other business property	60
Ogdensburg, N. Y.—Bldg. occupied by McDonald Shoe Co	60
Panama City, Fla.—Freighter "Pan-American" and four dwellings	100
Zanesville, Ohio—Several Main Street business establishments	80
Pajaro, Cal.—Matiasevich apple drying plant destroyed	50
Mount Kisco, N. Y.—Colonial Hotel at Croton Lake detroyed	80
Fall River, Mass.—Property of Staples Coal Co. on Globe Wharf	80
Russelliville, Ala.—Shed of Keeton Whse. Co. destroyed	125
Newton, Mass.—Apartment house destroyed	50

School Program for Officers

A school of instruction for officers and officials of the Baltimore Fire Department has been arranged by Chief Howard Travers.

Twenty lectures are arranged for the period from November 1 to April 23. Separate sessions are held for Lieutenants, Captains and Battalion Chiefs. The following lectures will be given:

Cooperation and control in administration; official papers, reports and requisitions; fire service; ventilation, how and when it should be done; waterfront fires; Fire Department's use of automatic sprinklers and standpipes; clothing factories, their hazards and general fire causes; fire prevention and fire protection; forced entry; foundries, their processes, hazards and fire causes; fire streams, the proper use of various size streams; handling various types of fires, apartment houses and automobile repair shops; hospital fires, loft buildings and lumber yards; oil fires, railroad yard fires, household furniture, storage fires; industrial buildings, celluloid fires; automobile fires, awning and chimney fires; fires in refrigerating and cold storage plants and department stores; cotton fires, crockery store fires, coal pocket fires, chemical fires and chemicals of dangerous character; candy factories, their hazards and fire causes.

Alarms Broadcast From Radio Station

During Fire Prevention Week, Chief Ralph J. Scott of the Los Angeles Fire Department devised a novel way of calling attention to the fire hazard.

All during the week there was a regulation fire indicator cabinet and fire gong installed in the announcer's booth at radio station KNX. Every call received at Fire Department alarm headquarters was also received in the radio booth. Programs were interrupted in the middle by the alarms. The bell and siren warnings crashed out at any time, even in the middle of announcements.

Inspector Orville J. Emory of the Los Angeles Fire Department remained on duty at KNX throughout the station's broadcasting hours, all week. He gave the location

Broadcasting the Alarms from Station KNX
Inspector Orville J. Emory, of Los Angeles Fire Department, interpreting the alarms for Glenn Hardy, announcer for Station KNX.

and character of the fire, the number of the companies and the types of apparatus attending, and following each report gave significant statistics on fires of the past season.

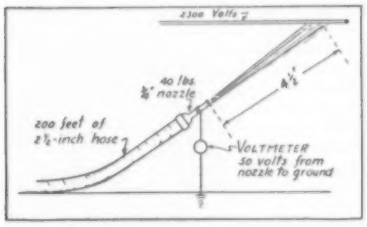
Nearly eighty calls of every type and description were handled during the six days of the campaign. The station is a 50,000-watt station and serves eleven western states, Canada and Alaska. It was a thrill for the radio listeners to hear the sudden alarms and to be told what they meant.

Fire Equipment Officials Give Dinner

The New Jersey Fire Equipment Company, Dunellen, N. J., were hosts to members of the organization, Fire Chiefs and officials of the larger New Jersey towns at a dinner held October 6. A gift was presented to Charles S. Day, father of the sales manager, Ernest N. Day, for his services.

Conductivity of Fire Streams

An interesting experiment on the conductivity of fire streams was performed by R. K. Dingledine and W. D. Rogers, of the Tennessee Inspection Bureau, and R. W. Britchard, of the Tennessee Electric Power Company, at Winchester, Tenn.



Arrangement for Test on Conductivity of Streams

A small 115-2,300 volt transformer was used. The low voltage winding was connected to a 115-volt circuit. One of the high tension terminals was grounded and the other was connected to a bare wire supported on insulators making the potential of the bare wire 2,300 volts to the ground. A stream from a ¾-inch nozzle with forty pounds pressure was directed on the charged wire from a distance of 4.5 feet. The potential between the nozzle and ground was measured by means of a voltmeter and found to be fifty volts.

Illinois Firemen Meet

The forty-seventh annual convention of the Illinois Firemen's Association was held at Granite City, October 16-18. The firemen were welcomed by Mayor A. M. Jennings, and President Joe Valentine responded.

Robert E. Maginnis, Protection Engineer, American District Telegraph Company, Chicago, read a paper on "Automatic Fire Alarm System." Senator James A. Monroe, spoke on, "Legislation Benefiting Firemen." Louis Pitcher, General Manager, Dixon Home Telephone Company, read a paper on, "The Value of the Telephone to the Fire Department Service." Capt. John P. Redmond, Chicago Fire Department, spoke on, "Organizations and Pensions." A paper prepared by Dr. David J. Price, Bureau of Chemistry and Soils, Washington, D. C., on, "Development in Dust Explosions and Farm Fire Prevention of Interest to Firemen," was delivered.

Chief Albert Herring, Chairman of the Exhibit Committee, conducted the visitors through the Exhibit Hall and had charge of the demonstrations.

A mock arson trial was conducted by Sherman V. Coultas, Fire Marshal, and the Deputy Fire Marshal of Illinois.

Chief James T. O'Donnell, St. Louis Salvage Corps, had charge of salvage demonstrations. Others on the last day's program included: "Arson," by Jesse R. Brown, Alton; "Loyalty," by Chief W. R. Stoneham, President, Madison County Firemen's Association, Woodriver; "An Auditor's Sidelights on Two Per Cent Fire Department Tax," by Frank Hutchings, Champaign.

The next convention will be held at Waukegan. The new officers are Frank Rutkowski, President, Steger; George Knol, Cicero, First Vice-President; Roy W. Alsip, Champaign, Secretary; Simon Kellerman, Jr., Edwardsville, Treasurer; Elmer W. Weidler, Mt. Olive, Historian. The Executive Board consists of Joe Valentine, Rock Island; Albert Hasse, Peru; M. J. Myers, Mt. Pulaski; Pearl Smith, Madison; Albert Herring, Murphysboro; Andy Pesavento, Joliet; Charles DeRousse, Granite City; Fred P. Haderlein, Carlyle; John Link, Blue Island.

New Hampshire Chiefs' Club Meets

Fifty-seven members attended the fall meeting of the New Hampshire Fire Chiefs' Club which was held at the Hotel Costello, Berlin, on October 10. Chief Harry J. Monahan, of Berlin, presided, assisted by the Secretary, Chief Albert C. Melendy, of Nashua. Daniel Fiedel, Berlin, welcomed the members and guests.

Frank M. Tiffany, of the Gamewell Company, of Newton, Mass., presented the club with an eight-inch fire alarm gong for the president to use in calling the meeting to order. This gong is a relic of the Great Chelsea, Mass., fire, but had been fixed up for use with the gavel.

The Berlin Fire Department furnished music during the luncheon and also gave the ladies present a box of candy and a courtesy card good at any theatre in the city.

M. Norcross Stratton, of the vocational training division of the Massachusetts Department of Education, was the speaker. He told of the establishment of training schools for firemen in Massachusetts and of the remarkable success and large attendance that has marked the project. The club endorsed the efforts of the committee on revision of New Hampshire fire statutes. It was voted to hold the next three meetings of the club at the Eagle Hotel in Concord, N. H.

HARRY BELKNAP.

New England Chiefs to Meet June 25-27

At a meeting of the Board of Directors of the New England Association of Fire Chiefs held in the Parker House, Boston, on October 17, it was voted to hold the thirteenth annual convention in New Bedford, Mass., June 25-27.

Chief Edward F. Dahill, of New Bedford, told of the preparations that are being made for the convention. The directors voted to select the Hotel New Bedford as convention headquarters and to arrange the use of the New Bedford Armory for exhibits.

Plans were discussed for staging a genuine old fashioned New England clambake during the convention and for providing trips to the famous old whaling ship "Charles W. Morgan" at Round Hills; and to the New Bedford Whaling Museum.

Upon a motion by Chief Oliver T. Sanborn, of Portland, Me., it was voted to appoint a committee to draw up qualifications for honorary life membership in the association and to report at the convention.

Secretary John W. O'Hearn reported the following deaths since the last meeting: Ex-Chief Philip Partenheimer, of Greenfield, Mass.; Chief Henry H. Heitman, of Waterbury, Conn.; George C. Ambrose, of Boston, and Robert Maney, of Brookline.

HARRY BELKNAP.

Fire Prevention Week Activities

Fifteen of San Francisco's oldest firemen, in point of service, were the guests of honor at a luncheon at the Commercial Club on Monday, October 8, where the history of the San Francisco Fire Department was reviewed by Lewis F. Byington, President of the Public Utilities Commission. He spoke on "The Fire Department—an American Institution."

During the week the public was admonished by radio, demonstrations, and other methods to remove fire hazards from their homes, to study the question of preventing fires, to learn location of the nearest fire alarm box in case of emergency, and to cooperate with the Fire Department in maintaining it as a strong and efficient organization.

Chief Brennan was the central figure in a realistic reenactment of one of the city's most serious fires over the radio and directed a monster demonstration in front of City Hall.

During the week, Boy Scouts of San Francisco visited the Fire Department drill tower and obtained first hand information and knowledge of fire-fighting method and rescue work, the demonstrations of which were under the supervision of Chief Charles Brennan, with the assistance of Captain Willis Gallatin, Drillmaster, and Captain Con Sullivan in charge of rescue and first aid training.

C. W. GEIGER.

Fire Headquarters of Paris, France

Unlike Fire Station arrangements in this country, in a number of cities on the continent, apartments are provided at the various stations for the officers, the men and their families. This shows the fire headquatrers of Paris, France, and the apartments provided for the men in the service.

World's Most Scientifically Designed Fire Apparatus From Darley & Co.

A Pumper, Booster, Hose and Ladder Truck

Our Champion Front Mounted Pump is the Centrifugal Type with impeller of virgin bronze. Precision built. Flexible at all speeds and tremendously powerful in fighting flames closeup or at long distance in storms and high winds. Capacity in gallons per minute naturally depends upon conditions and equipment used. Our capacity ratings are actual, not fictitious. Pumping from suction it will do 500 G. P. M. without appreciable effort and at the same time maintain a 1⅛-inch nozzle pressure of 120 pounds. With a slightly larger nozzle it will give 650 G. P. M. from good street hydrants. Or, if a smashing high pressure stream of 250 pounds is desired, a smaller tip does it.

A terrific "Whip-stream," which scientific Fire Chiefs now desire, at 250 POUNDS PRESSURE, can be let loose from the Booster Tank nozzle. WHIP-STREAM does its fast work by lashing a blaze, in contrast to low pressure streams that, so-to-speak, pour water on a blaze and form puddles.

Whatever the problem to be met the Champion Fire Pump is adaptable — anything from fast whip-streams to ruin soaking with a big Deluge Playpipe.

Fire Chiefs, who truly value the best, find the Champion Pump as gratifying in service as in its super construction. There is effortless smoothness in its action.

Precision construction guarantees years virtually without number of dependability. So smooth is the flow of power, so terrifically powerful its fire fighting streams of water, that one senses immediately the extreme care with which this highly refined mechanism has been built.

Every Champion is constructed to the highest principles of manufacture, with advanced engineering, of the finest materials, and to precision limits exact to minute fractions of a hair's breadth.

This is the background of Champion Fire Pumps. This is as it should be because all that is nearest and dearest—human life and property—depend upon the Pump when it's called into action.

ORDERED BY ANDOVER, OHIO, AND OTHERS

Ford V-8 Chassis
Capacity, 1600 ft. hose.
Complete, except hose..... **$1627.00**

Our New Catalog has 84 pages with 500 illustrations and shows many Fire Trucks and 400 items of interest to Chiefs and Firemen. Send for it. No charge to you.

W. S. DARLEY & Co.

America's Headquarters for Fire Equipment
Established 26 Years Ago CHICAGO, U. S. A.

INDIAN FIRE PUMP TRUCK CARRYING RACK

Carrying rack of unbreakable malleable iron which bolts to running board or floor of truck makes outfit complete. Straps hold pump in place. Heavy, black japanned buckle instantly locked or unfastened.

CARRYING HANDLE

When it is not convenient to fasten pump on back it is easily carried by large carrying handle into which pump fits snugly.

QUICKLY REFILLED

A large opening permits quickly and easily refilling the INDIAN FIRE PUMP, from stream or faucet. As it uses only clear water, no expensive chemicals, it can be refilled continually during action.

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Better your record with Shuredry

SALVAGE COVERS

Fully 75% of the fire loss is due to water damage. Shuredry Salvage Covers are an essential part of the equipment of progressive Chiefs everywhere. You can better your record, too, by using these covers.

Reduce Water Damage *and* Insurance Rates

Shuredry Covers are better because they weigh less, cost less, will not crack when folded . . . give better protection. Samples and prices gladly furnished. Ask for them today.

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Manufacturers Since 1870
ATLANTA ST. LOUIS DALLAS
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This new

M·S·A HELMET

has "everything" a fireman's hat should have...

Molded in one-piece from durable, highly fracture-resistant micarta, heavily reinforced at crown and brim edge . . . non-conductive to electricity and permanently non-softening from water, chemicals or perspiration . . . self-ventilated, cool—unusually light in weight, snug-fitting and comfortable . . . equipped with detachable zipper-operated ear-lugs; a chin strap designed to simplify donning the helmet over a gas mask, and other superior features . . . always smart and trim in appearance—the new M.S.A. Fireman's Helmet truly answers every demand of fire-fighting service. ¶ Write for the new Fireman's Helmet Bulletin FX-I.

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AFTER all, a good badge is a sensible investment. Not everyone can wear a fireman's emblem of service. You men who have devoted your lives to saving life and property should be proud of your badge.

You will be if you wear a BRAXMAR BADGE. Over fifty-five years of experience goes into every badge you buy.

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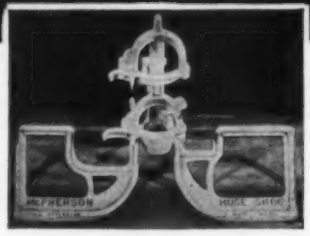
FIRE HOSE SHOE



Does the job of a Turret—

and at much less cost

If your needs call for a deck gun, a deluge set or a turret nozzle and your budget can't comfortably stand the price of these items, we suggest you get the dope on this new fire hose shoe. It actually takes the place of other high priced equipment and does just as fine a job.

It converts back pressure into down pressure, prevents backlash, stands on its own feet and takes all the pressure your hose will stand. Why subject your men to punishment when this hose shoe can be left standing in the tough spots.

Write for full information—now.

GENERAL APPARATUS CORP.

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LOS ANGELES, CALIF.

County Fire Wardens Meet in Tewksbury

Chief Orville O. Ordway, of the Reading, Mass., Fire Department, presided at the first fall meeting of the Middlesex County, Mass., Forest Fire Wardens' Association which was held on the evening of October 25 in the Town Hall in Tewksbury. Prior to the opening of the business session there was a turkey dinner, a vaudeville entertainment and then two reels of motion pictures were shown.

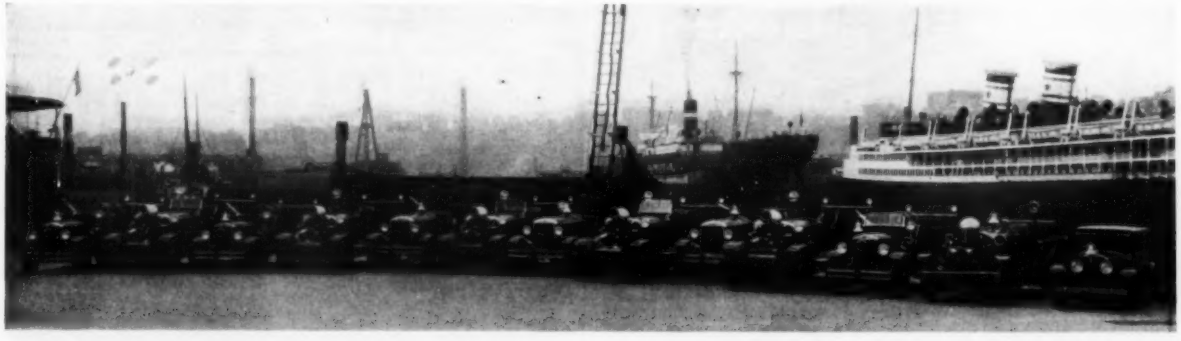
Announcement was made that the November meeting will be held in North Reading and the December meeting in Burlington. The speakers were Maxwell C. Hutchins, State Fire Warden, who said Massachusetts this year had about 900 wood fires most of which occurred in the early spring and were not extensive; Samuel A. York, Commissioner, Massachusetts Department of Conservation, who told of the work being done to provide recreational areas in the state forests; Mr. Young, Assistant State Forester, who reported that there had been 375 forest fires in New Hampshire so far this year; and Chief Allen, Brookline, Mass., who spoke in a humorous vein of incidents at the recent Milwaukee convention.

Other speakers were M. Norcross Stratton, State Department of Education, who told of the success of the state training schools for firemen; Alfred L. Miner, Chairman, State Fire Prevention Committee, Massachusetts Safety Council, who pointed out that the largest number of fires occur in dwellings and that the principal cause of fires is careless smoking; Ex-Chief Crowe who had some new stories to relate; Captain Tarr, who extended greetings from the the Essex County wardens; and Representative Brown, of Billerica. The meeting closed with the customary roll call of members by towns. HARRY BELKNAP.

Hoboken, N. J., Augments Apparatus

Five 1,000-gallon Ahrens-Fox pumpers and five hose wagons were placed in service by Hoboken, N. J. Previous to placing the new units in service, a public demonstration was given on October 11 on a Hudson River pier. In addition there was exhibited several pieces of apparatus purchased many years ago so that the residents could observe the strides made in fire apparatus design.

The demonstration was superintended by Chief John J. Gilday, with the aid of Assistant Chief Andrew Keller and Battalion Chiefs John J. Reilly and Frank Drewes. Mayor McFeely and other city officials were well pleased with the latest Fire Department additions.



Display of Fire Apparatus at Pier 16, Hudson River, Hoboken, N. J.

Westchester Chiefs Discuss Traffic Rules

The question as to whether fire apparatus should obey traffic signals was thoroughly discussed at the regular meeting of the Fire Chiefs' Emergency Plan, of Westchester County, N. Y., at its regular meeting, held at the Snowden Avenue Fire House, Ossining, N. Y., on Thursday, October 25. The Plan was welcomed by Mayor Jackson of the village of Ossining. Four new members were elected.

In the discussion on traffic regulations, Chief Oscar F. Grabb, of New Rochelle, said that apparatus should be under control and should be driven through red lights with the utmost care. In Mount Vernon, according to the Assistant Chief, when an alarm sounds all lights turn red for a period of two minutes, but these lights turn back again sometimes before the Chief arrives at the fire. While the apparatus driver should, of course, use care, drivers of other vehicles should also be cautious.

Chief Chambers, of Yonkers, pointed out that every precaution should be observed by drivers passing a red light. There is, of course, need to get to a fire as quickly as possible. He cited a fire in an old apartment house in which his men had rescued 31 persons. People were hanging out of windows when the apparatus arrived. If the department had been compelled to wait for traffic lights, the delay would have been fatal.

Chief Brennan, Pelham Manor, referred to the discussion of the question at the I. A. F. C. convention, and especially to the paper by Chief Gardner, of the Kansas City, Mo., Fire Patrol. Chief Brennan said that fire apparatus should not be compelled to stop by law, but should come to the crosswalk and then proceed with caution. If necessary, at a red light, driver should come to a full stop at the crosswalk; if not, should slow down before proceeding, and look in both directions. In his village, all lights are turned red at a fire alarm. Chief Brennan said he was strongly opposed to making apparatus stop at red lights, but caution is essential in going through them.

Ex-Chief Wooley believed that the Plan should present the matter in concise form to Albany so that volunteers could be taken care of through insurance, in case of accident. Chief Burrell, of Harrison, also believed it time to act and suggested that a committee be formed to cooperate with the state association to work for legislation on the subject.

Chief Burrell spoke for the Committee on Oil Burner Code. He asked that the code be printed and distributed to all members, so that it could be discussed at the next meeting, prior to adoption. Chief Brennan spoke at length on the hazards incident to oil burners, and especially as to the size of tanks which should be allowed in private dwellings. Chiefs Burrell said that when oil deliveries are properly controlled, much of the trouble will be eliminated.

At the invitation of Chief Brennan, it was decided to hold the next meeting at Fire Headquarters, Pelham Manor, N. Y., on Wednesday evening, November 21. Refreshments were served after the meeting, by courtesy of the Ossining Department.

CORRESPONDENCE

Protection for Firemen

To the Editor:

In a recent issue of FIRE ENGINEERING there was an article by Captain Wagner, of Cleveland, Ohio, in which he cited the advantages of enclosed fire apparatus when firemen were returning from a fire.

While fire departments in this country have a remarkable fire extinguishing record, it is obvious that these departments are second to those on the Continent in the design and type of apparatus, especially when compared to the equipment of the English fire brigades. I am sure that all progressive fire engineers would be receptive to the adoption of appa-

ratus which follows the English design. Now would be an opportune time for manufacturers to consider changes in their design to make them conform to the English units.

I have developed a design for an enclosed pumper and hose carrier which would give firemen adequate protection from the elements. Inside the enclosed body, on each side, is a bench for the men, which can be folded back when not in use. Partitions separate the center, the full length of the body, and that is used for carrying hose. In front there is a sliding window for communication with the driver. Two half doors in the back open outward and are locked from the inside by means of a rod fitting into fixtures in the floor and ceiling. The car is warmed by hot water heat.

Very truly yours,

JOHN T. JOYCE,
Cleveland Heights, Ohio.

Buffalo-Ford Fire Apparatus Tested

In a special demonstration held at the Ford Motor Company plant in Buffalo, N. Y., recently, before a group of about 300 fire chiefs and Ford dealers from New York State and Pennsylvania, a new 500-gallon pumper built by the

Views of the Buffalo-Ford Fire Apparatus
Upper demonstration of the 500-gallon pumper and lower a close-up view of the apparatus.

Buffalo Fire Appliance Corporation, Buffalo, N. Y., mounted on a regular Ford V-8 Truck Chassis, gave quite a satisfactory performance.

The apparatus was parked on the dock at the Ford plant and drew water from the harbor, up a 19-foot lift, and a test showed that with this high lift, the pumper delivered 465 gallons per minute, at 120 lbs. pump pressure.

This same apparatus, a few days before in another test, made at the Buffalo Marine Airport, delivered 513 gallons per minute at 120 lbs. pump pressure, with a 12 foot lift.

A few days previous to the demonstration at the Ford plant, this new fire fighting unit passed a 12 hour Underwriters' Test.

In commenting on the tests and demonstrations, Ford and Buffalo Fire Appliance officials said, "After exhaustive experiments, we are now able to offer small municipalities adequate fire fighting apparatus at a price within the range of community budgets."

The accompanying pictures illustrate the recent demonstration at the Buffalo Ford Plant and a closeup view of the new Buffalo-Ford 500-gallon pumper.

Department and Other Reports Received

Ottawa, Ont., Canada—Fifty-ninth annual report of the Chief of Fire Department, Ottawa, Ont., Canada; twenty-two pages.

Denver, Col.—Annual report of the Denver, Col., Fire Department; contains portraits of city officials and staff officers of the department; forty-eight pages.

Dominion Association of Fire Chiefs—Proceedings of the twenty-fifth annual convention, Dominion Association of Fire Chiefs, held at Peterborough, Ont., August 28-September 1, 1933; bound in cloth, 221 pages.

New Trade Literature Received

The following literature descriptive of up-to-date methods and equipment for fire departments, has been issued for general distribution, and can be procured by writing to the concerns mentioned. Those desiring additional trade literature in which they are interested can use our regular "Information for Buyer" pages listed in the Advertising Index.

Worthington Pump and Machinery Corporation, Harrison, N. J.: Illustrated folder on the Single stage volute Type L centrifugal pumps; illustrated folder on horizontal duplex piston pumps for general services, Type VA, for pressures up to 125 pounds per square inch.

W. S. Darley & Co., Chicago, Ill.—Catalogue No. 99 containing eighty-three illustrated pages on fire apparatus, equipment, tools, hose and fire department supplies.

CONVENTION DATES

Nov. 21—FIRE CHIEFS' EMERGENCY PLAN (of Westchester County, N. Y.) Regular Meeting, Fire Headquarters, Pelham Manor, N. Y. Secretary, Capt. Walter M. Dawkins, Harrison, N. Y.

May 13-17, 1935—NATIONAL FIRE PROTECTION ASSOCIATION. 39th Annual Meeting, Atlanta, Ga. Secretary-Treasurer and Managing Director, Franklin H. Wentworth, 60 Batterymarch Street, Boston, Mass.

June 11-14, 1935—ILLINOIS FIRE COLLEGE. 11th Fire College, under auspices of Illinois Firemen's Association. Address, Assistant Chief Roy W. Alsip, Secretary, Illinois Association, Fire Department, Champaign, Ill.

June 25-27, 1935—NEW ENGLAND ASSOCIATION OF FIRE CHIEFS. 13th Annual Convention, New Bedford, Mass. Headquarters, Hotel New Bedford; Exhibits, New Bedford Armory. Secretary-Treasurer, Chief John W. O'Hearn, Watertown, Mass.

July, 1935—MICHIGAN STATE FIREMEN'S ASSOCIATION. 61st Annual Convention and 7th Annual Fire College, Detroit, Mich., probably in middle of July. Secretary-Treasurer, Statistician and Director, Fire College, Charles V. Lane, Charlotte, Mich.

July 16-17, 1935—MARITIME FIRE CHIEFS' ASSOCIATION. 21st Annual Convention, Moncton, N. B. Secretary-Treasurer, Capt. K. J. MacRae, Salvage Corps and Fire Police No. 1, Saint John, N. B.

July 29-Aug. 1, 1935—WEST VIRGINIA FIRE SERVICE EXTENSION SCHOOL. 5th Annual School, West Virginia University, Morgantown, W. Va. Address Secretary, W. Va., Fire Chiefs' Ass'n., C. B. Powell, Romney, W. Va., or Prof. Lewis V. Carpenter, Director, at University.

July 30, 1935—WEST VIRGINIA FIRE CHIEFS' ASSOCIATION. 4th Annual Meeting, West Virginia University, Morgantown, W. Va. Secretary, Chief C. B. Powell, Romney, W. Va.

Forest Fire Precaution in England
A new practice is being employed in England to speed workers to forest fires. The photograph taken at Lyndhurst shows the banners that are used to hold up motorists who are then asked to deliver a card to either the post office, police station, or road guide. The card gives the nature of the fire, the exact location, and to whom the information should be telephoned. It is hoped that this plan will bring assistance more quickly.

FEDERAL VERTICAL SIRENS

The modern audible fire alarm system, instantly recognized above all other noises. Guaranteed dependability—entirely weatherproof.

Federal Engineers will make a survey of your village, town or city, free of obligation. Know the right Fire Alarm for your community by knowing FEDERAL.

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HALE CENTRIFUGALS are good Centrifugals.
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WHEAT SPOTLIGHT

An OFFICERS LIGHT *at*

$17.50

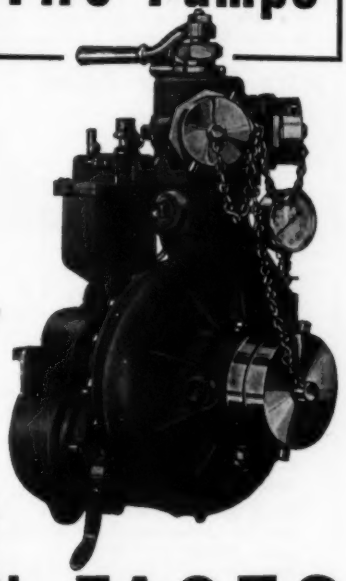
(Single Bulb Type—Chrome Plate Finish)

RECHARGEABLE — Which means *reliability* and *cheap* to operate (not a dry cell type requiring constant battery renewals).
Now equipped with a double filament bulb. Weighs only 87 ozs.

KOEHLER MFG. CO., Marlboro, Mass.

You Can't Duplicate Barton Fire Pumps

Don't Let Anyone Tell You Differently!



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1. Barton Fire Pumps are COMPLETELY PROTECTED BY PATENT COVERAGE, both Drive and Automatic Primer. For years to come, it will not be possible for any other company to market a centrifugal, front mounted pump with Barton features and performance. Don't let anyone fool you!
2. Back of the Barton is over a half-century of experience in pump design and construction. WE KNOW HOW A FIRE PUMP MUST BE BUILT. You're not getting a cheap makeshift—you're getting the finest equipment offered today.
3. BARTON PUMPS ARE THE ONLY FRONT MOUNTED FIRE PUMPS THAT MEET UNDERWRITERS' TESTS. Remember that! Barton ratings are all based on pumping from suction. Operating from a hydrant, a Barton Pump will deliver practically twice its rated capacity. All legitimate manufacturers rate their pumps this way. To do otherwise is to mislead. BEWARE!

If you want the startling economy, wonderful performance and long service which a Barton offers, there is only one thing to do. INSIST ON A BARTON AND NOTHING ELSE.

Bulletin 75 gives full details. Write for it. AMERICAN STEAM PUMP COMPANY, Battle Creek, Michigan.

BARTON FIRE PUMPS

COVER'S
NOD and SHAKE
GAS MASK

Carry It in Pocket. Slip on in a Jiffy. Positive Protection to Eyes Against Smoke.

Price $48 per Dozen

Upon receipt of $4.00 one will be forwarded as a sample, postpaid.

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Station A
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is made of three distinct plies of high tensile, slow aging rubber. That is one of the reasons for the long service in

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LOW HEAD—CUSHION LINED
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Never go to a fire without the protection of a good helmet. It may save your life.

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HEWITT-GUTTA PERCHA
FIRE HOSE

A complete line, including
Wax Treated - Solid Multiple Woven
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Single and Double Jacket Hose
Manufactured by
HEWITT RUBBER CORPORATION
BUFFALO, N. Y.
"Territories Available"

Bi-Lateral Fire Hose

The one hose that does not require frequent replacements. Always reliable for fire service no matter how old, if the jackets are intact.

Lined with three rubber tubes.

BI-LATERAL FIRE HOSE CO.
15 Park Row, New York, N. Y.
20 N. Wacker Drive, Chicago, Ill.

STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE ACT OF MARCH 3, 1933, of FIRE ENGINEERING, published monthly at New York, N. Y., for October 1, 1934.

State of New York } ss.:
County of New York }

Before me, a Notary Public in and for the State and county aforesaid, personally appeared I. H. Case, who, having been duly sworn according to law, deposes and says that he is the Business Manager of Fire Engineering and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management, etc., of the aforesaid publication for the date shown in the above caption, required by the Act of March 3, 1933, embodied in section 537, Postal Laws and Regulations, to wit:

1. That the names and addresses of the publisher, editor, managing editor, and business manager are: Publisher, Case-Shepperd-Mann Publishing Corporation, 24 West 40th Street, New York City. Editor—Fred'k Shepperd, 24 West 40th Street, New York City. Managing Editor—Fred'k Shepperd, 24 West 40th Street, New York City. Business Manager—I. H. Case, 24 West 40th Street, New York City.

2. That the owner is: Case-Shepperd-Mann Publishing Corporation, 24 West 40th Street, New York City. I. H. Case, 24 West 40th Street, New York City. Frederick Shepperd, 24 West 40th Street, New York City. Karl M. Mann, 24 West 40th Street, New York City.

3. That the known bondholders, mortgagees, and other security holders, owning or holding one per cent or more of total amount of bonds, mortgages, or other securities are: None.

4. That the two paragraphs next above, giving the names of the owners, stockholders and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company, but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds, or other securities than as so stated by him.

I. H. CASE,
Business Manager.

Sworn to and subscribed before me this 1st day of October, 1934.

[SEAL] ELLEN E. DUNCANSON.

(My commission expires March 30, 1936.)

Robert Many Dies in Miami, Fla.

Robert Many, Vice-President of the Fabric Fire Hose Company, died in Miami, Fla., on October 13. He had been in failing health for the past two years.

The Late Robert Many

News of his death, however, came as a distinct shock to his many friends among the Fire Chiefs, by whom he was deeply respected for his business integrity, and loved for his cheerful and companionable manners. He was a member of the Fire Chiefs Club of Massachusetts, and of the New England Association of Fire Chiefs. He lived in Brookline, Mass., with a winter home in the south.

Mr. Many was born in Stamford, Conn., on June 13, 1858, and went to high school in New Haven. He became a salesman of mill supplies in Chicago and later was President of the Chicago Fire Hose Company.

He became associated with the Fabric Fire Hose Company in 1882 and traveled extensively as a salesman for this company, always making new friends and customers, as well as retaining old ones. In appreciation of his long and faithful service he was elevated to the position of Vice-President of the firm in 1917.

He is survived by his wife who, before her marriage in 1885, was Miss A. Louise Cann, of Milwaukee, Wis. Mr. Many had already been making plans for the celebration of their golden wedding anniversary next year. Interment was in Oak Park, Ill. HARRY BELKNAP.

Ex-Chief Arthur Montmeny Dead

Arthur Montmeny, ex-Chief of the Fire Department in Chicopee, Mass., died on October 1 after an illness of seven months in a hospital in Springfield.

He was 51 years old and served as Chief of the Chicopee Fire Department from January, 1922, until January, 1931. He was a tool maker and erecting engineer by profession before joining the Fire Department.

He served as President of the Chicopee Board of Aldermen and as Chairman of the Republican City Committee. He took a prominent part in affairs of the Franco-American Political Society and was President of the Laurier Club.

Mr. Montmeny was a member of the Oxford Country Club and the Foresters of America. He had formerly been active in the Fire Chiefs' Club of Massachusetts and the New England Association of Fire Chiefs.

He is survived by his widow, parents, two brothers and two sisters. He used to be a prominent figure at the New England Chiefs' conventions and on banquet nights always obliged by singing "Alouette," with all present joining in the chorus. He was popular and well liked for his cheerful and pleasant ways. HARRY BELKNAP.

Parker Again Heads Box 52 Association

P. Hildreth Parker, Belmont, Mass., was re-elected President of the Box 52 Association, Inc., at the annual meeting held in Boston, October 17. The other officers chosen were: Frederick W. Kurth, Vice-President; Harry J. Rockett, Secretary; George W. Austin, Treasurer; Charles J. Curtaz and C. Elmer Gane, Directors for three years; Bartlett Tyler and James G. Moulton, Directors for two years; and William B. Corcoran and Donald Holbrook, Directors for one year.

Among the guests at the meeting were Chief John S. Pachl, of the Annex Fire Department, New Haven, Conn., President of the New England Association of Fire Chiefs; Chief Michael W. Lawton, of Middletown, Conn., Director of the New England Association; Chief T. Robert Quinlan, Needham; Deputy Chief William J. Quigley, and District Chief James Sheehan, of the Boston Fire Department, and the Rev. Augustine Jones, of Springfield, Vt.

Percy C. Charnock, of the New England Insurance Exchange, spoke on the increasing menace of malicious false alarms in Boston and other New England cities. During the month of September he said the number of false alarms in Portland, Me., amounted to 21.2 per cent of the total number of alarms; in Cambridge, Mass., the false alarms totaled 24.6 per cent; in Fall River, 24.1 per cent; in Lynn, 14.4 per cent; Providence, R. I., 15.4 per cent; and in Boston, 45.4 per cent. Of the total number of box alarms sounded in Brockton during September the false calls amounted to 33.3 per cent; in Lowell, 25 per cent; and in Worcester, 43 per cent.

Mr. Charnock declared that this record was a disgrace and that some measures must be taken to check the evil. He said that 48 per cent of the false alarms occurred between 8 p.m. and midnight. This would largely eliminate school children as offenders. He suggested having warning cards or signs citing the penalty for sounding false alarms placed on all fire boxes and having plain clothes police officers assigned to watch boxes that are frequently sounded needlessly. The need for cooperating by judges in meting out heavier sentences to convicted offenders was also pointd out.

Donald Holbrook gave an interesting talk on the London Fire Brigade and also told of visits to the fire brigade headquarters in Paris and Amsterdam during his European trip last summer. He showed photographs of foreign apparatus and stations.

There was a large attendance at the meeting during which all Boston fire alarms and "all out" signals were received over low-wave radio. HARRY BELKNAP.

Ex-Chief Mjelde of Livingston Dead

H. J. Mjelde, seventy years old, who was forced to retire as Chief of the Livingston, Mont., Fire Department a little over a year ago due to ill health, died on October 6. He had been head of the department for twenty-two years.

Pennsylvania Firemen Meet at Sudbury

Nearly two thousand delegates attended the fifty-fifth annual convention of the Pennsylvania State Firemen's Association held at Sudbury, Pa., October 2-4. The visitors were welcomed by the Mayor and Walter Culp, President of the local department.

Dr. Northrup, Department of Public Instruction, spoke on fire colleges. Others who spoke included Dr. Bronton, State College and Chief Brown of Binghamton, N. Y.

The new officers are John L. Jones, Danville, President; Vice-Presidents, John Lauderbaugh, Pittsburgh; John Musser, Barnesboro; L. E. Wagner, York, and Joseph Hall, Blain.

There were many entertainment features for the firemen during the convention.

Fireman's Belt for Carrying Hose Line

A patent has been granted for a fireman's belt to assist fire fighters to carry charged hose lines and permit the free use of the hands. It consists of a fabric belt eight inches wide with steel brackets. It is worn about the waist of a fireman. With this belt, it is said that the operation of hose lines becomes much easier. There are hooks on the belt for carrying axes, claw tools, fire extinguishers or other small appliances.

Fireman's Belt

Leaf Starts Alarm

Three companies of Coatesville, Pa., responded to what was reported to be a roof blaze. After a short investigation firemen found a leaf caught in the shingles of the roof, and when the wind caused the leaf to flutter, the sun acting on the leaf simulated the appearance of a fire when viewed from a distance.

Santa Fe, N. M., has added a 500-gallon pumper to its equipment.

Manufacturers' Announcements

MSA Firemen's Helmet

Micarta has been molded in one piece by the Mine Safety Appliances Company, Pittsburgh, Pa., to form a fireman's helmet of new design. It has detachable zipper-operated ear lugs that cover the forehead, and the side and back of head down to the collar, a leather chin-strap with separate adjusting and fastening devices to make it easy to wear the helmet over a gas mask and an all-leather sweatband backed by rubber pads. The pads protect the wearer against shock of blows on the helmet.

MSA Fireman's Helmet

The helmet is furnished in black for the men or in white for the officers. It can be supplied with a leather shield carrying the department insignia.

Long Service of Fire Hose

Thirty-one years service of fire hose was reported by H. E. Fields, Manager, United States Lace Curtain Mills, Kingston, N. Y., to the Manhattan Rubber Manufacturing Company. He wrote:

"It may be of interest to you to know that in 1903 we purchased from you 600 feet of 2½-inch fire hose to equip our three hose houses as approved at that time by the Factory Mutuals. This hose has been in use as required up until June 18, 1934, at which time it was recommended we replace 100 feet that was in poor condition. The poor condition was due to this 100 feet having been used to put out fires that occurred in our coal storage and the gases from burning coal had made it necessary to be replaced. We still have 500 feet in good condition when inspected June 18, 1934."

Thermostat Alarm for the Home

A small fuse which will melt at about 150° F., and sound an alarm through the door bell wiring system of a house, is being marketed by the Fahrenheit Laboratories, New York City, under the name of "Thermotact," for use in buildings.

The fuse part of the system is about one and one-half inches long. The fuse is mounted in a cartridge housing as an ordinary cartridge fuse and is held in place on a red fuse block. As the door bell circuit is tested frequently during the day, there is assurance that the private alarm system is in good working condition.

Method of Attaching Thermotact to a Doorbell Circuit

Charlotte, N. C., has purchased ground on which will be erected a new fire station.

Reininger Heads W. Va. Firemen

C. F. Reininger, Charles Town, W. Va., was elected President of the West Virginia Firemen's Association. The other officers are M. H. Brighbill, Elkins, First Vice-President; G. E. Moser, Thomas, Second Vice-President; John Hare, Morgantown, Third Vice-President; T. F. Vernon, Keyser, Secretary; W. W. Long, Keyser, Treasurer.

Captain Reininger has been head of the Charles Town Company since 1927 and has been a member of the state firemen's association since its inception. He is a member of the West Virginia Fire Chiefs' Association, and for the past three years attended the annual fire school at West Virginia University. He is also a member of the Cumberland Valley Volunteer Firemen's Association.

C. F. Reininger

Chief Murphy Resigns

Chief C. J. Murphy, for fifty years a member of the Minesville, Wis., Fire Department and Chief for nearly sixteen years, has resigned due to ill health.

He joined the fire service in 1882 as a volunteer fireman. On June 1, 1905, he became a paid fireman as Second Assistant Chief. He became Chief on February 1, 1919.

Use of Booster Line Facilitated

Master Mechanic E. C. Brooks of the Malden, Mass., Fire Department has devised a fitting which enables him to pump through the booster pump to 1½-inch hose in addition to using the small booster line.

A Seagrave combination with a centrifugal booster pump was equipped with this attachment on the top plate of the pump, directly in the rear of the seat. The fitting has a valve and elbow and the material for the device costs about twelve dollars.

In the demonstration, a 2½-inch line was laid from the hydrant to the combination, and 150 feet of 1½-inch hose was laid from this newly equipped valve. The hydrant had a pressure of only 38 pounds, and the booster pump raised the pressure up to 75 pounds in pumping water. The test showed that 99 gallons per minute were furnished through a nozzle having a ½-inch tip, while the speed of the engine was 480 r.p.m. There was no overheating of the pump. In conjunction with this, the small booster line of 250 feet was used and the nozzle was equipped with a 5/16-inch tip. The pressure was boosted up to 75 pounds. This brought 30 gallons of water per minute while the speed of the motor was 760 r.p.m. This test was performed to see what the difference would be in using the two lines separately.

The water storage tank is not affected by this new arrangement and therefore is not used. Both lines can be used at once or each one separately, or a two-way fitting may be applied so that an additional 1½-inch hose can be used. The hose can be handled by less men than with the 2½-inch hose and the pressure can be regulated so that the water on inside fires will not be too excessive.

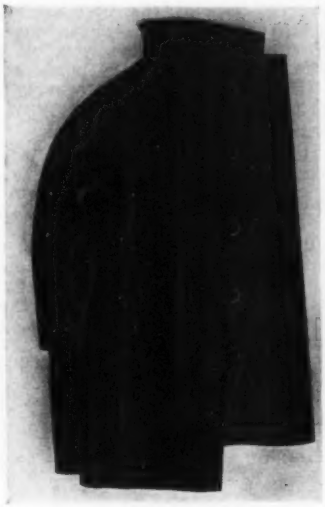
Chief W. J. Dooling will equip his other combinations with this new improved fitting and carry 1½-inch hose on all pumps and combinations.

Lynn, Mass., has placed a new 85-foot aerial hook and ladder truck in service.

Thirteen firemen's training schools are being conducted this year under auspices of the Division of Vocational Training of the Massachusetts Department of Education. Last year there were ten of these schools in operation. New classes have been established in Attleboro, Fitchburg, and Truro.

Here is the Coat You've Been Looking For!

MIDWESTERN
FIREMEN'S COAT



Used by the firemen at the Chicago World's Fair. Made of Vanitex—a waterproof, durable, pliable material—manufactured exclusively for Midwestern. It's an acid-proof, soft, flexible, comfortable, good looking and long wearing coat, that retains the same flexibility in all temperatures. And all Midwestern Firemen's coats have our famous Safety Snap, a new and exclusive feature used only by Midwestern. Easier and quicker to fasten and release in cold weather. Nothing can catch on it accidentally. Can be fastened and unfastened with one hand.

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Bunker Coats and Pants
(with or without detachable lining)

All Uniforms and House Pants are Made to Measure and UNION MADE

We are patentees of the detachable feature of firemen's coat which provides a heavy blanket plaid lining (70% wool) which is removable in warm weather. The most satisfactory garment for winter and summer wear. Water-proof bunker pants with detachable lining in same materials. The outer water-proofed fabric will not absorb water, and ice will not cling to it. Our garments are the result of years of study and experimentation. Bunking outfits and coats without detachable lining if preferred. We have them all—a complete line for firemen. Write, or wire if you are in the market for immediate delivery or send for catalog showing our complete line. We solicit opportunity of bidding on city orders.

Illustrating Fireman's coat and bunking pants, both with detachable lining.

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FIRE-FIGHTING METHODS
FIRE STATION DESIGN
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CARE OF FIRE HOSE
CHEMISTRY OF FIRE
HEAT AND ITS ACTION
DRILL TOWERS
DRILLS AND EVOLUTIONS
FORCIBLE ENTRY
EXPOSURES
STANDPIPE WORK AT FIRES

—and Many Other Things

FALSE ALARMS

BLIND JUSTICE

A volunteer fireman was rushing to a fire in an old car. He crashed into another motorist, ran out to see if his car was still in operating condition, re-entered his car, and was off.

A policeman started to write out a ticket for the motorist.

"I had the right of way when this man ran into me, yet you say I was to blame."

"You certainly were," answered the policeman.

"Why?"

"Because his father is Mayor, his brother is Chief of Police, and I'm engaged to his sister."

Our idea of "high hat" is the man who eats salted almonds at a ball game.

DAMAGING ERROR

Errors result in much embarrassment and sometimes cause serious results. Attention is called to the case of the village newspaper editor who printed:

"The Ladies Auxiliary of the Fire Department will hold another fool sale."

The editor is doing as well as can be expected.

One of the great problems of today is whether daughter will get married or have to prefer a career.

EVIDENCE

"I see by the paper," said the station wit, "that there are a number of casualties."

"By what paper?"

"By the fly paper."

They say halitosis is better than no breath at all.

THE COMBINATION

The son did not elect to follow the father's footsteps. He decided to go to college.

A newspaper man calling on the father in his office, asked:

"So your son is in college? How is he making it?"

"He isn't making it," shouted the Dad. "I'm making it and he's spending it."

Some men never appreciate their children so much as when making out their income tax.

SPEED COMPARISON

A short circuit started a fire in an automobile near a farmhouse. A farmer who saw the wisps of smoke, shouted to the motorist that he would help him put out the fire, and then rushed into his farmhouse. By the time he came out with some pails of water, the car was a wreck. The motorist surveyed the damage and looked bitterly at the farmer.

"Have you ever been to a zoo?" he asked.

"No sir, I haven't."

"Well you ought to go. You'd sure get a kick out of watching the turtles zip by."

NO EXCUSE

A speaker at a state convention wanted to impress upon his audience that the Fire Department must be prepared for every type of emergency.

He told of a wedding at which the bride appeared but not the groom. The clergyman, guests and the embarrassed bride waited in the church from one to three in the afternoon and then they departed.

A week later the woman wrote to the clergyman appointing another day at one o'clock for the ceremony. But again the groom failed to appear. When nearly two hours went by, she bitterly exclaimed to the minister:

"Drat him! Tain't his trousers this time, 'cause I bought him a pair."

It's the driver's brains, not the car, that need improvements.

CONGRATULATIONS

How he ever managed to pass the entrance examinations no one knew. But he did. His defeat came at the drill school where after he had exasperated the Drillmaster beyond endurance, he was ousted for the good of the service. His brother heard the news and said to the victim:

"So you've been ousted. How did you take it?"

"Oh, I congratulated the Drillmaster on turning out such a fine young man."

"Hey, officer, I want to report a stolen ladder."

—*Courtesy, Judge*

FREE INFORMATION

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We will then request the leading manufacturers of such equipment to send you descriptive literature and prices direct without any cost to you or obligation whatever.

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16 Body Equipments
17 Boxes, Gongs, Reels, Registers, Fire Alarm
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19 Brake Linings
20 Brooms, Fire
21 Building Materials, Fire Retardant
22 Caps, Firemen's
23 Chains, Non-Skid, Fire Apparatus
24 Chassis for Fire Apparatus
25 Chemical Engines and Tanks
26 Chimney Fire Fuses and Compounds
27 City Service Trucks
28 Coats and Suits, Firemen's Quick Hitch
29 Combination Chemical and Hose Cars
30 Cutting and Welding Equipment, Blow Torch
31 Cutting and Welding Equipment, Electric
32 Deluge Sets
33 Door Openers, Fire Station, Automatic
34 Electric Light Plants
35 Extinguishers, Calcium Chloride
36 Extinguishers, Carbon Dioxide
37 Extinguishers, Soda-Acid
38 Extinguishers, Carbon Tetrachloride
39 Extinguishers, Foam
40 Extinguishers, Powder
41 Fire Boat Nozzle Equipment
42 Fire Department Supplies, General
43 Fire Exit Devices, Door Opening
44 Fire Alarm Posts
45 Fire Escapes, Portable
46 Fire Escapes, Rigid
47 First Aid Equipment
48 Flare Lights
49 Flashlights, Hand
50 Flood Lighting Equipment (Lamps, Cable, Reels, etc.)
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52 Foam Liquid for Extinguishers
53 Gas Masks and Respirators
54 Gas and Smoke Helmets
55 Gas and Smoke Generators
56 Goggles, Firemen's
57 Helmets, Metal, etc.
58 Hose Bridges
59 Hose Carts, Reels and Racks
60 Hose Clamps
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64 Hose Jackets
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88 Salvage Covers
89 Searchlights
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91 Shirts, Firemen's Special
92 Sirens, Apparatus and Chiefs' Cars
93 Sliding Poles
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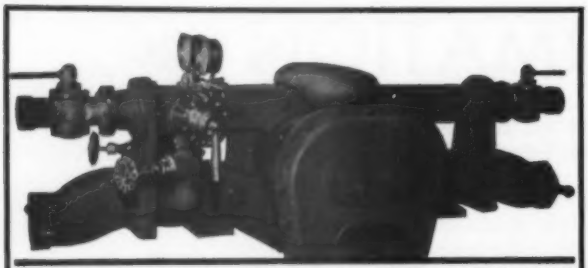

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Puts Out
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Quickly

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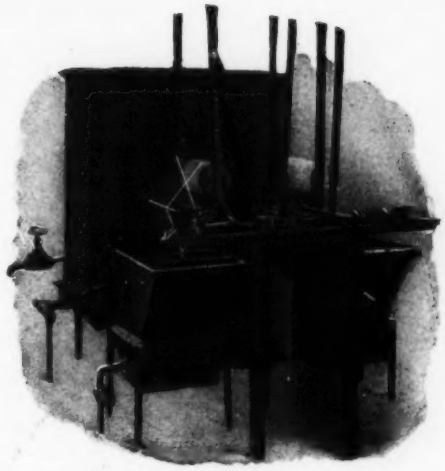
This machine is used to make Fabric Fire Hose rot proof and mildew proof. It treats every individual thread with wax and gum.



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From this plant on the banks of the Pootattuck River we send hose to all parts of the world—most of it to old customers.

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